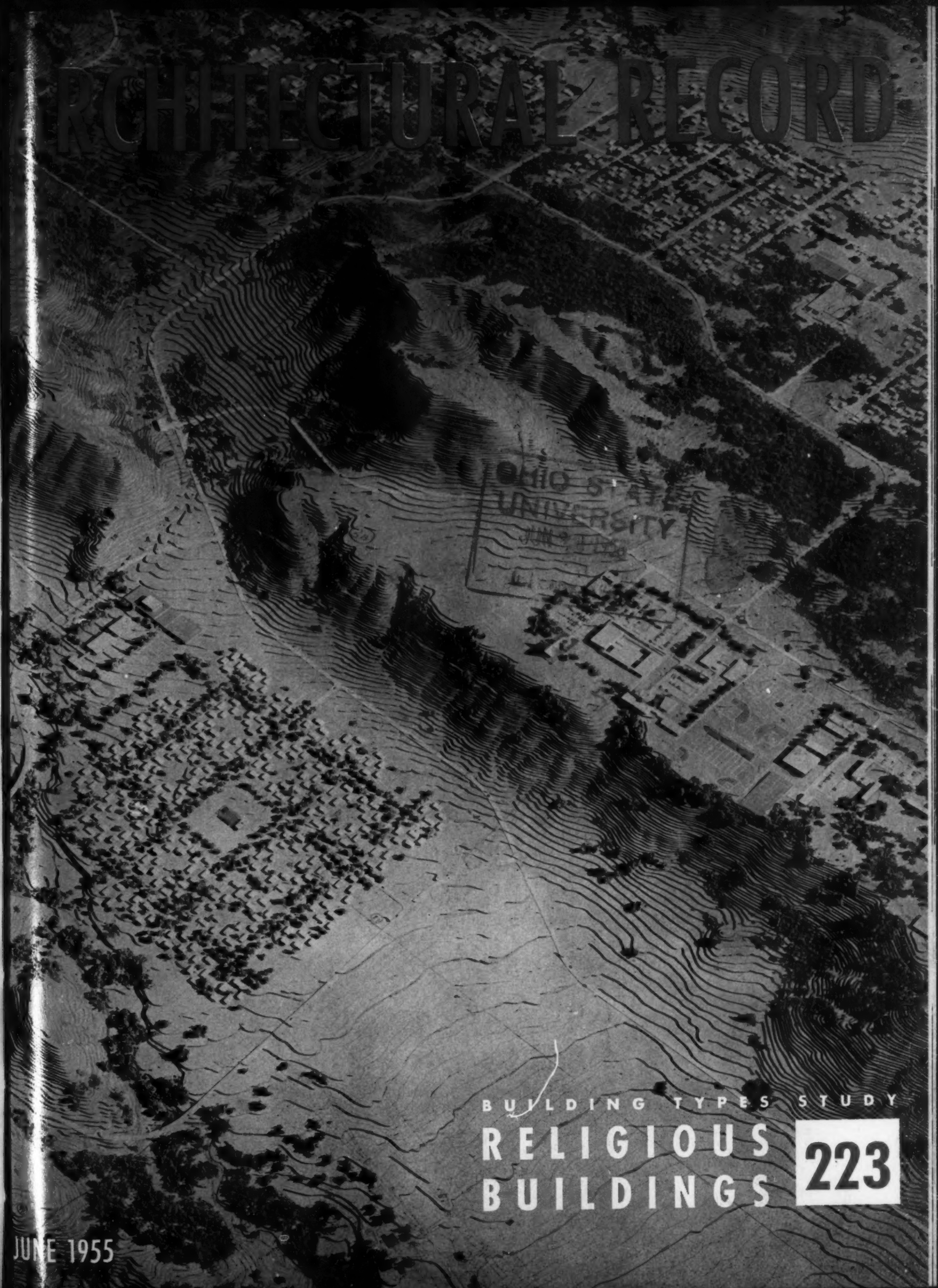
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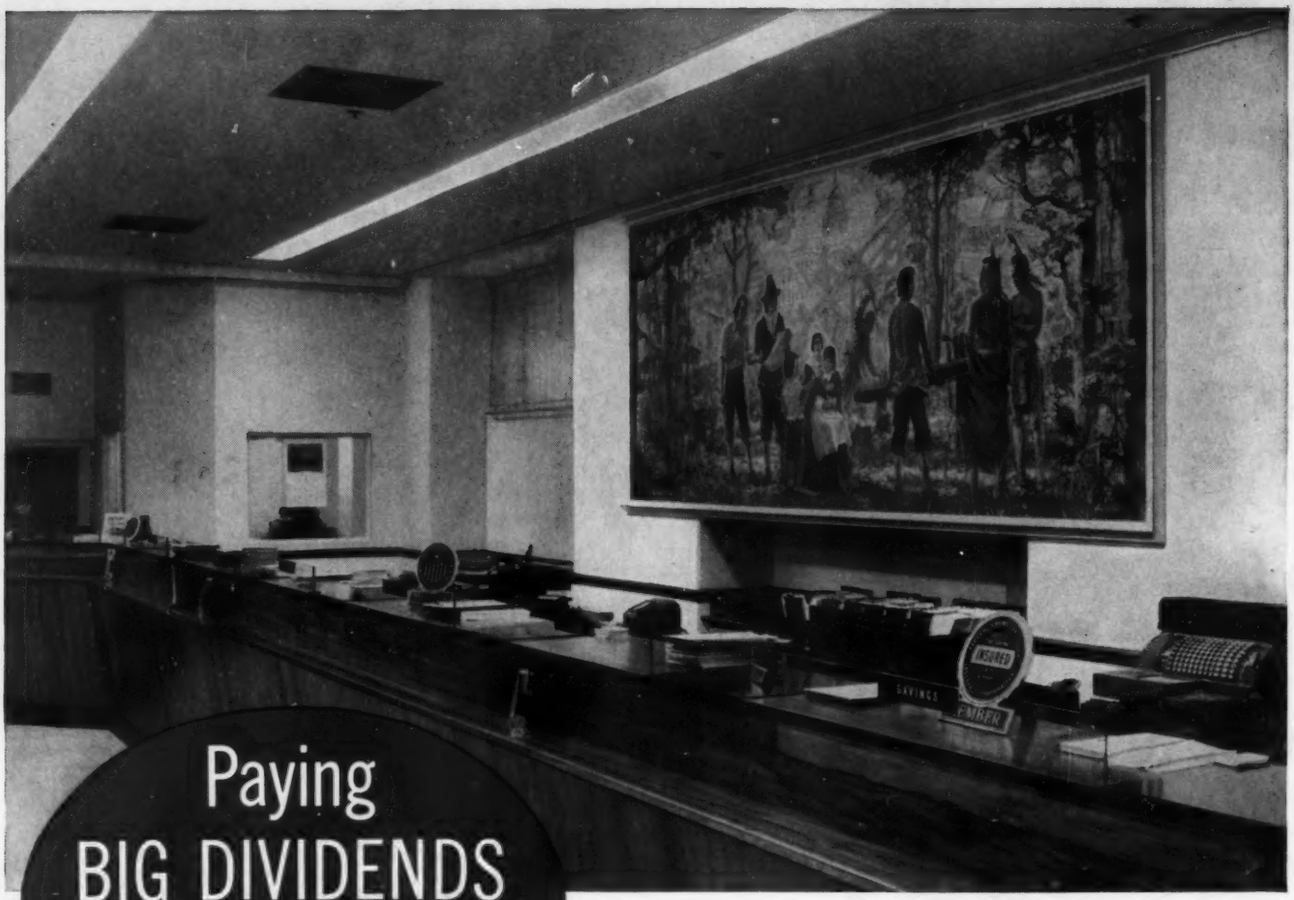


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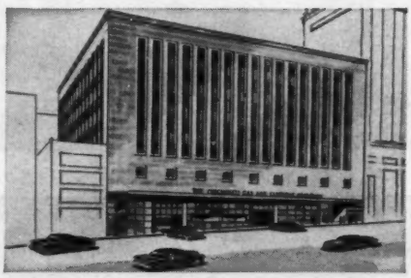
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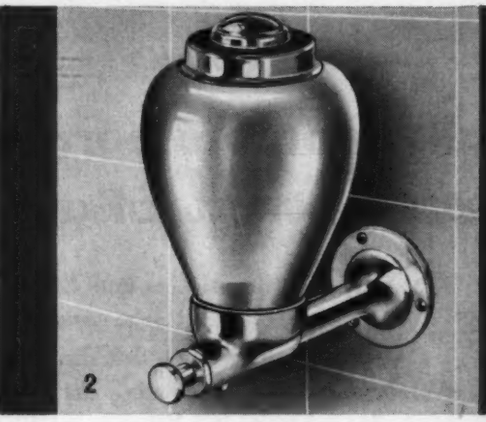
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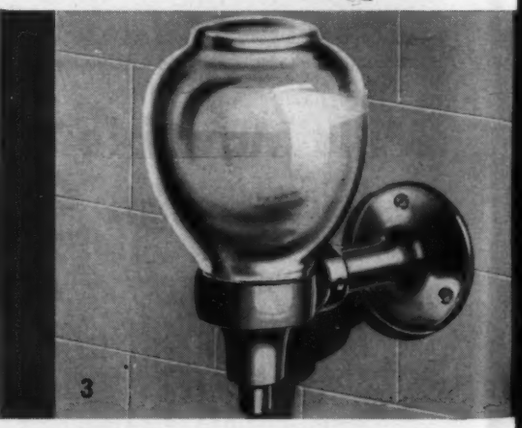
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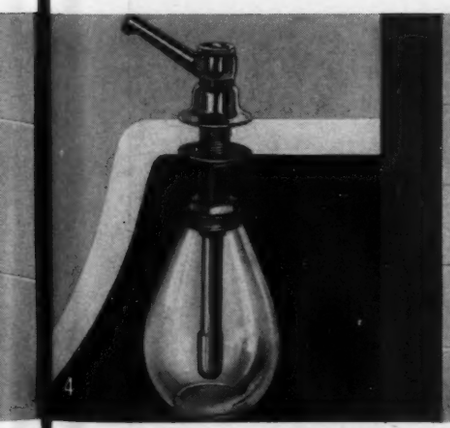
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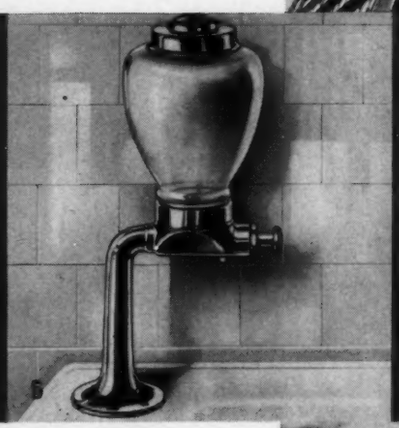
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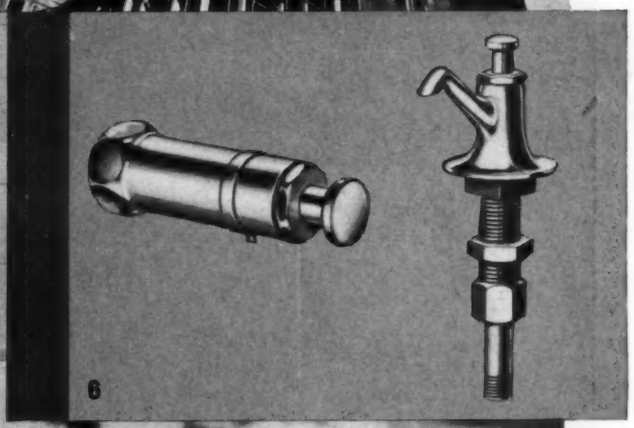




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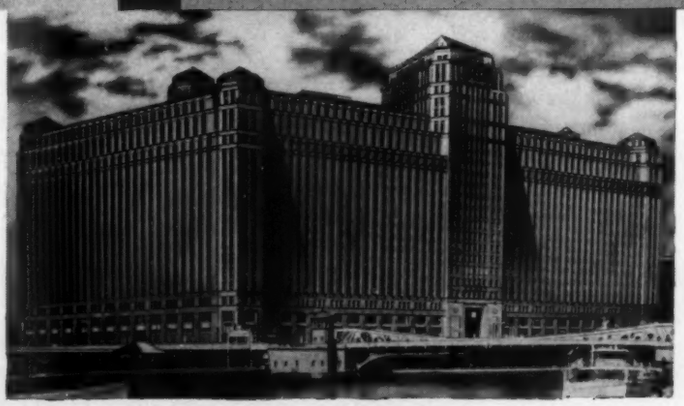


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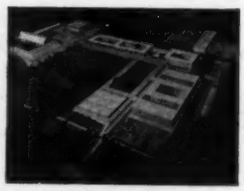
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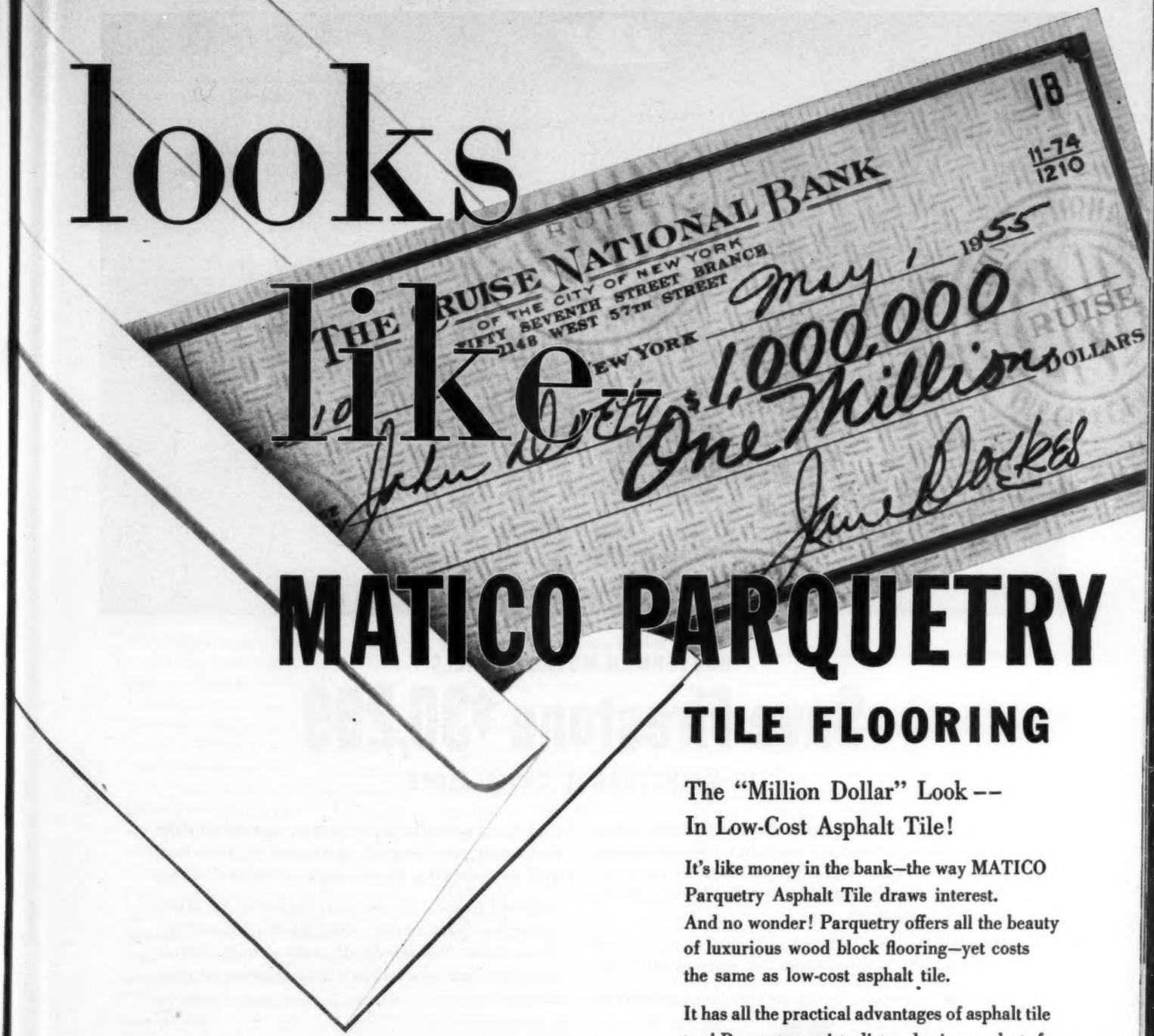
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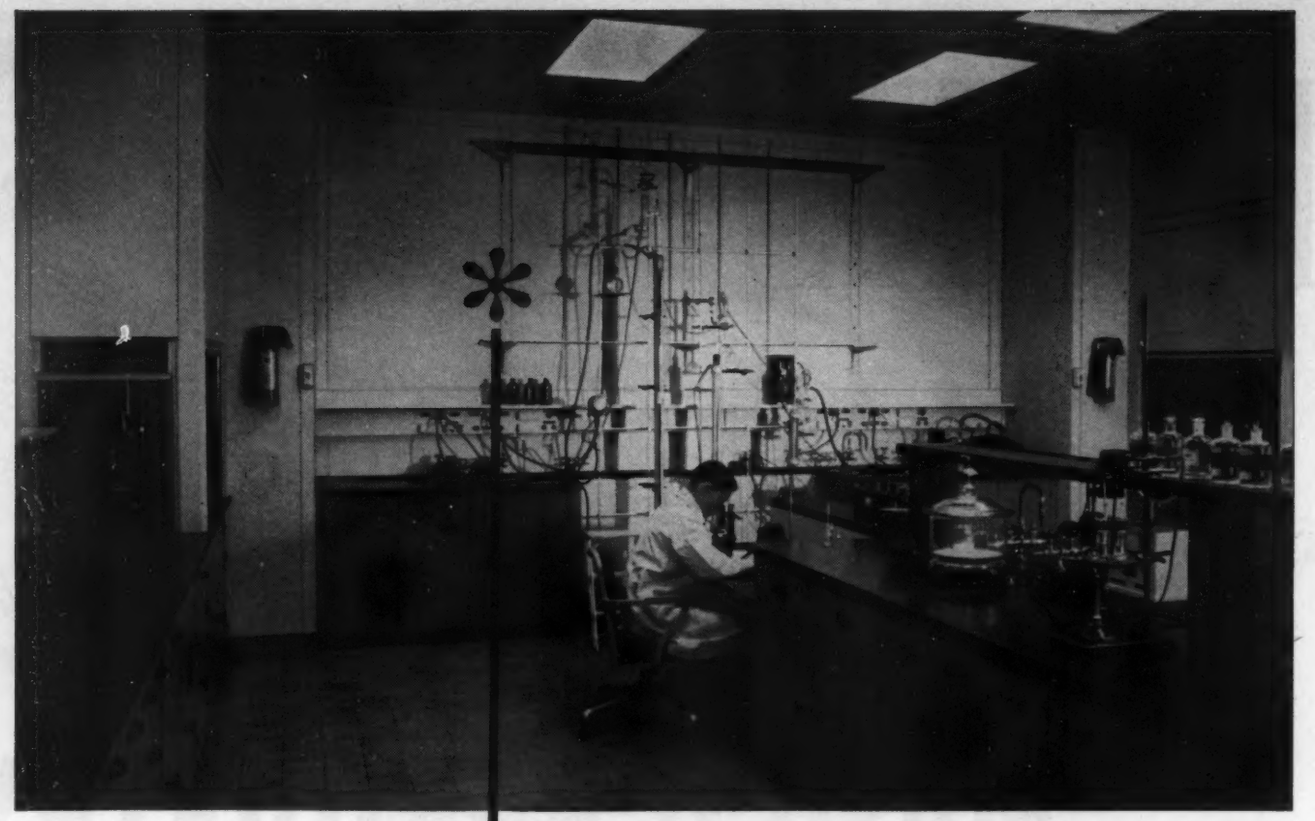
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THE RECORD REPORTS

PERSPECTIVES

FAME IS THE SPUR: Only one architect has made the Hall of Fame, and he was Thomas Jefferson, elected and identified in New York University's now legendary collection in the open-air colonnade on its Bronx campus not as architect but as third U. S. president. This is election year for N.Y.U.'s "Hall of Fame for Great Americans," and as many as seven names may be added to the 83 selected in the series of elections held every five years since 1900. Nominees, who are proposed by the general public on ballots available on request to N.Y.U., must ~~have~~ been dead at least 25 years (until 1922, it was 10 years); final selections are made by an "electoral college" of American citizens representing all 48 states and substantial achievement in diverse fields. The visual arts altogether have produced only five of the 83 American heroes: and for two of them art was a secondary distinction — John James Audubon (1785–1851) is identified as "ornithologist and artist" and Samuel F. B. Morse (1791–1872) as "inventor of telegraph, artist." The others are Gilbert Charles Stuart (1755–1828), "portraitist"; Augustus Saint-Gaudens (1848–1907), sculptor; and James Abbott McNeil Whistler (1834-1903), "artist." The Hall has a single incumbent elected as an engineer — James Buchanan Eads (1820–1887). Architects can still say with the poet, "Fame is no plant that grows on mortal soil."

THE ARCHITECT AND THE STONE CARVER: At the Barnard College American Arts Festival, attended by student delegates from 35 colleges and universities, architecture was represented by Henry-Russell Hitchcock and Philip Johnson. Professor Hitchcock developed the theme that the work of three succeeding and overlapping generations of modern architects has created a "living tradition" of contemporary architecture. Mr. Johnson in his turn rejoiced that the present era has become "a golden age of architecture" because "we know where we are; we all use the same grammar. . . . We've got a *style*." Explaining to his student listeners that this style had been most frequently referred to as the "International Style" from the 1932 book in which Hitchcock gave it for the first time a name and a formal code, Mr. Johnson said that the basic canons of contemporary architecture are still, as they were then, *the cage, order* ("but not axial") and *no applied ornament*. "We can't all be geniuses," he said, and the style in effect substitutes for genius by providing a ready-made vocabulary. "I am so glad I can now lean on Mies and Corbu, since I am weak; and to know that if my generation is good enough we may yet stand on their shoulders; but I'm glad there's a style to help us get there." In the same week came a comment on contemporary architecture from a less likely — though equally special — source. One of the ten stone carvers who are currently reproducing the intricate carving of an 1812 façade on a new facing for New York's historic City Hall was quoted by *The New York Times* in a story about the restoration. Said Frank Arno, 72, one of 18 remaining members of the New York Stone Carvers Union: "What they're building now is nothing! Just a plain box. Not a bit of carving!"

INDIVIDUALITY, not mechanization, will be the keynote of the successful restaurant of the future, the annual convention of the National Restaurant Association was told last month in Chicago. Dr. Ernest Dichter, president of the Institute for Motivational Research, of Croton-on-Hudson, N. Y., recommended the fullest use of contemporary design to create atmosphere and personality that will give the customer a feeling that "he has found something special, something with an 'air,' a character that he can tell his friends about." All the modernizing of restaurants which has been going on of recent years has too often, Doctor Dichter felt, produced "a glittering chrome, steel and ceramic sameness," and efficiency for the restauranteur rather than the customer. "In other words, restaurants have become physically modern rather than psychologically and socially modern. There has been little thought given, for example, to the fact that some diners want speed — others want leisure. Some people eat alone — want a sense of privacy in doing so and not to be crowded into one table of long row of napkin-sized tables; others want the hustle and bustle of gaiety and activity. A really modern restaurant will be designed in the future to make full use of modern materials and technology, and yet to give the customer the particular psychological atmosphere he wants at the moment."

AT PRESS TIME comes word from Washington of the unexpected death on May 25 at the age of 55 of Marshall A. Shaffer, who had headed architectural and engineering phases of the U. S. Public Health Service hospital construction program since its inception in 1941. As chief of the Technical Services Branch of the USPHS Division of Hospital Facilities, Mr. Shaffer developed guides and criteria to assist architects throughout the country in the design of Federally-aided hospitals; the studies that came from his office have become, in fact, the prime references for any architect with a hospital design problem. It is doubtful if there has ever been a government official as widely known and as warmly admired by private architects. In the words of the citation which accompanied the American Institute of Architects' Edward C. Kemper Award, which Mr. Shaffer received in 1951, he "insured the conduct of the hospital building program of the U. S. Public Health Service in harmony with the highest ethical standards of the Institute and thus secured for the public the greatest benefit from the services rendered by its architects."



JURY IN SESSION: Around the conference table at the Octagon, members of the 1955 Honor Awards jury (left to right) — Ernest Born, San Francisco; Eugene F. Kennedy Jr., F.A.I.A., Boston; Chairman Thomas F. Locraft, F.A.I.A., Washington, D. C.; Ludwig Mies van der Rohe, F.A.I.A., Chicago; J. Byers Hays, F.A.I.A., Cleveland

1955 HONORS IN A.I.A. ANNUAL AWARDED TO 27

THE AMERICAN INSTITUTE OF ARCHITECTS' Seventh Annual Competition for Outstanding American Architecture brought First Honor Awards to five buildings (shown opposite) and Awards of Merit to 22 more (shown on pages 328 to 336). The jury (see cut above) said that the uniform quality of the work made its task of selection extremely difficult; and there were nearly 300 entries, the largest number ever submitted in an A.I.A. Honor Awards competition. There were no categories; "distinguished accomplishment in architecture" was the yardstick.

Architects of the winning buildings will be given certificates of award at the Awards Luncheon during the annual convention of the A.I.A. this month in Minneapolis. A specially designed stainless steel plaque also is furnished by the A.I.A. to be placed on each building receiving a First Honor Award. Panel exhibits of the 27 winning buildings will be shown at the convention; afterwards, photo-lithographic reproductions will be made of each panel, and the complete printed sets will be available for showings by A.I.A. chapters, libraries and architectural schools and for exhibition in foreign countries.

The A.I.A.'s annual honor awards program was initiated in 1949 "to encourage the appreciation of excellence in architecture and to afford recognition of exceptional merit in recently completed buildings." The competition is open to any American architect for any building in the United States or abroad completed during the preceding five calendar years.

Altogether, in the seven competitions held so far, 22 buildings in 12 states and one foreign country have received First Honor Awards; 109 buildings in 24 states and one foreign country have received Awards of Merit. In a geographic breakdown of award-winning buildings, California is way out in front, with seven of the 22 First Honor Awards and 51 of the 109 Awards of Merit. Nearest challenger is Texas, with three First Honor Awards and seven Awards of Merit. Michigan has two Firsts, and the others are distributed one each among Georgia, Iowa, Louisiana, Minnesota, New York, North Carolina, Oklahoma, Pennsylvania, Washington State — and Sweden Of the remaining Awards of Merit, Illinois, Louisiana and Massachusetts have five each, Florida and Washington State four each, Colorado and Virginia three each, and Iowa, Indiana, Michigan, New York and Pennsylvania two each; and there has been a single award in each of nine states — Alabama, Arizona, Georgia, Minnesota, Nebraska, New Jersey, North Carolina, Ohio and Oklahoma — and Mexico. There are 24 states in which no building has yet received an award.

(Awards of Merit, pages 328-336)

FIRST HONOR AWARDS, 1949–1954

1949

First Honor Awards: Corona Del-Mar School, Corona Del-Mar, Cal. — Marsh, Smith and Powell, architects; residence, Dr. & Mrs. Alex J. Ker, Marin County, Cal. — Frederick L. Langhorst, architect.

1950

First Honor Awards: Residence, H. C. Hvistendahl, San Diego, Cal. — A. Quincy Jones, Jr., architect; Davison-Paxon Company Store, Augusta, Ga. — Harold M. Heatley and Ketchum, Giná and Sharp, associated architects.

1951

First Honor Awards: Clearwater County Memorial Hospital, Bagley, Minn. — Thorshov & Cerny, architects; Coca Cola Bottling Plant, Houston, Tex. — Stone & Pitts, architects and engineers.

1952

First Honor Awards: Lever House, New York City — Skidmore, Owings and Merrill, architects; William Beckett's Office, Los Angeles, Cal. — William S. Beckett, architect; Gaffney's Lake Wilderness, Maple Valley, Wash. — Young and Richardson, Carleton and Detlie, architects.

1953

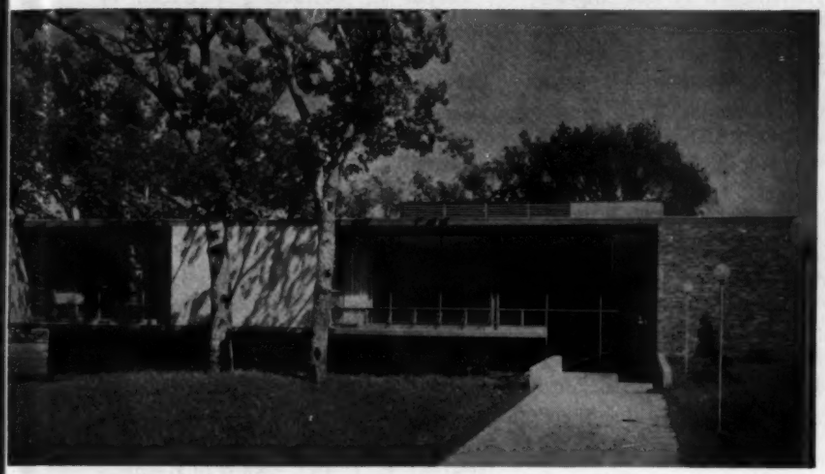
First Honor Awards: Engineering Staff Buildings, General Motors Technical Center, Warren, Mich. — Saarinen, Saarinen & Associates, architects, Smith Hinchman & Grylls, architects and engineers; North Carolina State Fair Pavilion, Raleigh — Matthew Nowicki, designer, William Henley Deitrick, architect, Severud-Elstad-Kreuger, consulting engineers.

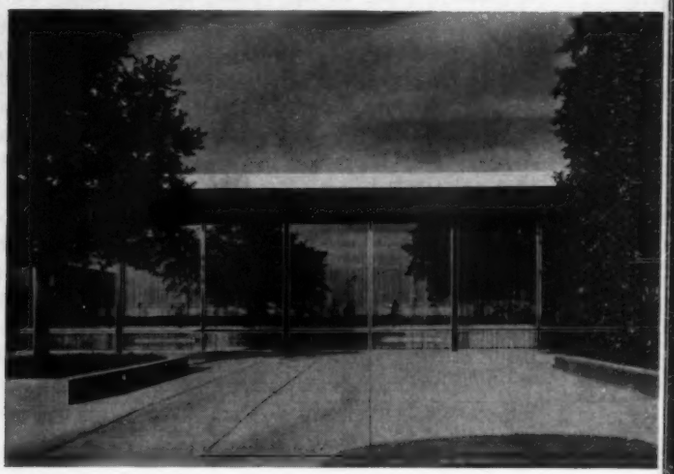
1954

First Honor Awards: Moore Residence, Ojai, Cal. — Richard J. Neutra, architect, Dion Neutra, collaborator; Lankenau Hospital, Philadelphia, Pa. — Vincent G. Kling, architect; Fort Brown Memorial Civic Center, Brownsville, Tex. — John P. Wiltshire and J. Herschel Fisher, architects; Thomy Lafon School, New Orleans, La. — Curtis and Davis, architects; Norman High School, Norman, Okla. — Perkins and Will: Caudill, Rowlett, Scott and Associates, associated architects-engineers; Santa Monica City College, Santa Monica, Cal. — Marsh, Smith and Powell, architects.



FIRST HONOR AWARD: General Telephone Company of the Southwest, San Angelo, Tex.; architect, PACE associates — Charles B. Genther, architect-in-charge; structural engineer, Frank J. Kornacker & Associates; builder, Evans & Taylor

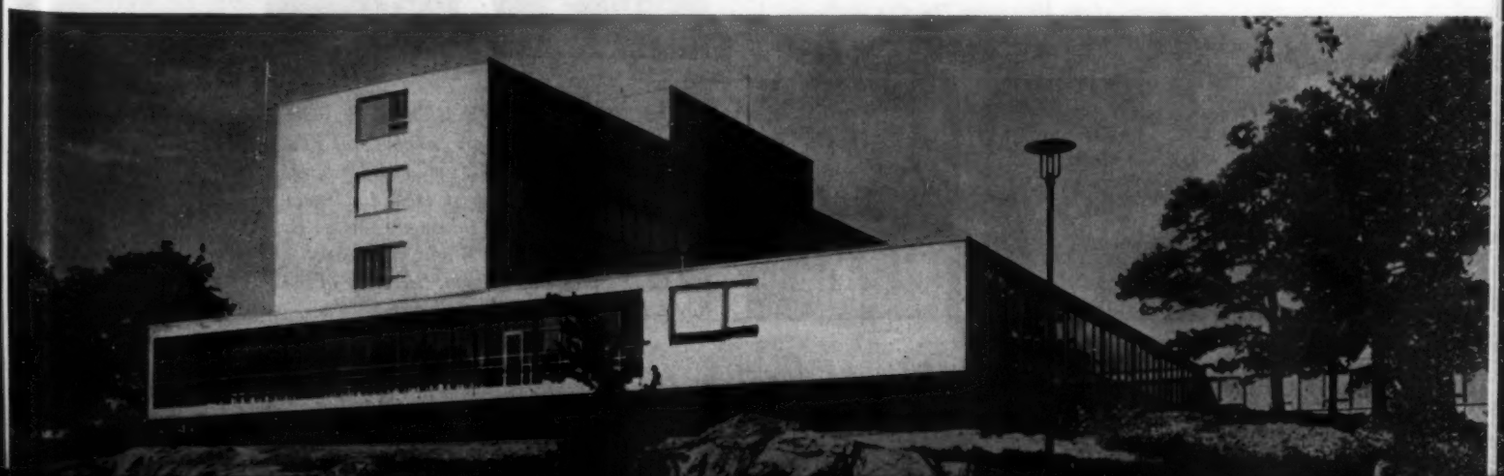




FIRST HONOR AWARDS: (Left) Women's Dormitories and Dining Hall, Drake University, Des Moines, Ia.; architect, Eero Saarinen & Associates; structural engineer, Severud-Elstad-Krueger; builder, The Wertz Company Inc. (Right) Central Restaurant Building, General Motors Technical Center, Warren, Mich.; architect, Eero Saarinen & Associates; architect-engineers, Smith, Hinchman & Grylls Inc.; landscape architect, Thomas D. Church; associate architect, E. A. Eichstedt; builder, Bryant & Detwiler



FIRST HONOR AWARDS: (Above) North Hillsborough School, Hillsborough, Cal.; architect, Ernest J. Kump; general contractor, C. F. Parker. (Below) American Embassy, Stockholm, Sweden; architects, Ralph Rapson and John van der Meulen; structural engineer, Sven Tyren; contractor, Ollie Engkvist & Nils Nessen



MINNEAPOLIS 1955: COMMUNITY DESIGN IS A.I.A. THEME

THE AMERICAN INSTITUTE of Architects holds its 87th annual convention this month in Minneapolis — June 21–24 at the Hotel Radisson. "Designing for the Community" is the convention theme; and in addition to the two major seminars relating to the theme, there will be seminars on client relationships and on regional and chapter problems. The three Minnesota chapters — Minneapolis, St. Paul and Duluth — are joint convention hosts, with G. Clair Armstrong of Minneapolis as chairman of the Host Committee.

Willem Dudok, distinguished Dutch architect and city planner, will receive the 1955 Gold Medal, the A.I.A.'s highest professional honor, in a ceremony at the annual banquet. Mr. Dudok, who made his first visit to the U. S. on an A.I.A.-sponsored speaking tour in the fall of 1953, will also make the convention's keynote address.

Politics of Course

All Institute offices and four regional directorships will be filled by balloting of delegates to the convention. President Clair W. Ditchy, F.A.I.A., of Detroit, now completing his second one-year term, is not a candidate for reëlection. Preconvention nominations, which closed May 12, produced this slate: for president — George Bain Cummings of Binghamton, N. Y. (national secretary for the past two years); for first vice president, Earl Heitschmidt of Los Angeles (the incumbent); for second vice president, Hugh Stubbins of Lexington, Mass., and John N. Richards of Toledo; for secretary, Ross Shumaker of Raleigh, N. C., and Edward L. Wilson of Fort Worth; for treasurer, Leon Chatelain Jr. of Washington, D. C. (the incumbent). Regional directors have been nominated as follows: New England, Austin Mather of Bridgeport, Conn.; New York, Matthew W. Del Gaudio of New York; Great Lakes, Brandt E. Hadley of Springfield, Ill.; and Rocky Mountain, Bradley D. Kidder of Santa Fe.

This Year's Honors

Investiture of new Fellows of the Institute, which traditionally takes place at the annual banquet, will have a special interest this year, because for the first time announcement of the selections will not be made in advance. The major address at the banquet will be made by Clarence Stein, F.A.I.A., New York architect and city planner who gave U. S. city planning early fame with the pioneering U. S. planned community at Radburn, N. J.

Turpin C. Bannister, F.A.I.A., of Urbana, Ill., will receive the Edward C. Kemper Award for Service to the Institute for his work in the final editing of "The Architect at Mid-Century." The Danish architect Kay Fisker of Copenhagen will be made an Honorary Fellow; and honorary memberships are to be awarded to four (see below).

Other honors to be given at the convention are the Fine Arts Medal, highest honor the Institute can bestow in fine arts other than architecture, to Croatian sculptor Ivan Mestrovic, who is now teaching and working at Syracuse University; and the Craftsmanship Medal, to calligrapher John Howard Benson of Newport, R. I. An "Award of Recognition for Distinguished Achievement in Architecture or Other Planning" — a new award this year — will be made to the Kohler Foundation, Inc., for the restoration of Wade House, Greenbush Village, Wisc.





A.I.A. GOLD MEDAL will be awarded this year to (left) Willem Marinus Dudok of Hilversum, The Netherlands, 70-year-old architect and city planner, a pioneer of the modern movement in Holland. Mr. Dudok is also the convention's keynote speaker. An American pioneer in city planning, (right) Architect Clarence Stein, F.A.I.A., of New York, will make the principal speech at the annual banquet





SEMINAR LEADERS at the two principal sessions developing the convention theme, "Designing for the Community," will be (right) Norman J. Schlossman, F.A.I.A., of Chicago, and Richard W. Perrin, A.I.A., executive director of the Milwaukee Housing Authority





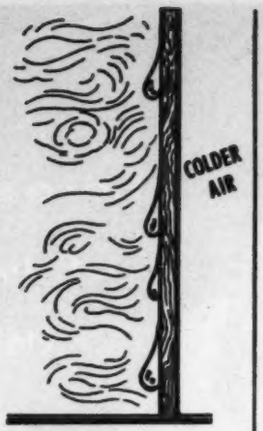
TWO NEW HONORARY MEMBERS: (left) the poet and historian Carl Sandburg of Flat Rock, N. C., and James W. Follin of Washington, D. C., Commissioner of HHFA's Urban Renewal Administration. Others are George B. Melcher, Flour City Iron Works, Minneapolis; and C. D. Spragg of London, Secretary of the Royal Institute of British Architects

How to Reduce CONDENSATION!

Prevent Damage to Wood, Plaster, Paint, etc.

As air becomes colder, it can hold less vapor in suspension. The degree of saturation increases until a dew-point is reached and condensation occurs.

Heat flows from warm to cold by conduction. A material which is in contact with air colder than itself on one side and air warmer than itself on the other side, will *continuously* extract heat from the warmer air by conduction and lose it to the colder air. As the contacting warmer air becomes cooler by this action, the amount of vapor it can hold in suspension without condensing becomes smaller.



Condensation forms when temperature of contacting air is reduced below dew-point by a cold surface.

Condensation forms when the capacity of an air space at a given temperature is too small for the amount of vapor present. ⟶



The denser and bulkier the material, the more heat it can extract before attaining room temperature, if it *ever* does. The scientific construction of multiple layers of accordion aluminum, fiber and air spaces minimizes condensation formation on or within this type of insulation, when installed in building spaces.

THE REASON CONDENSATION IS MINIMIZED

Since the sheet of aluminum adjacent to the warm, inner air of a building weighs only about ¼ oz. per sq. ft., it does not need to extract much heat from that air to attain and remain at room temperature. Since the emissivity of the aluminum surface is only 3%, little heat is lost by radiation and this further enables the aluminum to remain at about room temperature and not extract much heat from that warmer air.

Since the other sheets of aluminum and fiber retard heat flow by inner as well as outer convection, and since conduction is slight through the preponderant low density air spaces, the sheet's other surface faces a space which is only a *little* colder than the aluminum itself. But because warmth flows to cold in conduction, the aluminum will *give off a slight* amount of *heat* to the colder space, thereby slightly *increasing* the vapor retaining capacity of that space. The successive reflective spaces and sheets of aluminum and fiber behave similarly. Since each aluminum surface is slightly warmer than the air it faces on its cold side, there is no extraction of heat *(The reverse is true.)*

CONTINUOUS VAPOR BARRIER

When multiple accordion aluminum is used, fortuitous vapor and water (like rain) which intrude into building spaces will, as the vapor pressure develops therein, gradually flow out as vapor through exterior walls and roofs because vapor flows from areas of greater to less density. Since the vapor cannot back up through the continuous, almost impervious aluminum, it will flow out because exterior walls and roofs have substantial permeability in comparison with the aluminum, far greater than the required 5:1 ratio.

Of great importance is the use of a continuous metallic vapor barrier of zero water vapor permeability, without "breaks" every few feet, to retard the outward flow of vapor which originates inside the house. Infiltration under the flat stapled flanges of multiple accordion aluminum is slight.

To obtain MAXIMUM, *uniform-depth* protection against heat loss and condensation formation, it is necessary to use the new edge-to-edge multiple aluminum*, each sheet of which stretches from joist to joist, and also all through the flanges for further vapor protection as well as permanent attachment of each sheet.

The U. S. Bureau of Standards has prepared a helpful and informative booklet, "Moisture Condensation in Building Walls," which discusses causes and cures. Use the coupon to get a free copy from us.

*Patent applied for.

COST OF EDGE-TO-EDGE INFRA Multiple Aluminum Insulation installed in new construction between wood joists, material and labor

Type 6-PS about 10¢ sq. ft.
Type 4-PS about 8¢ sq. ft.

INFRA INSULATION, INC., 525 Bway., New York, N. Y.

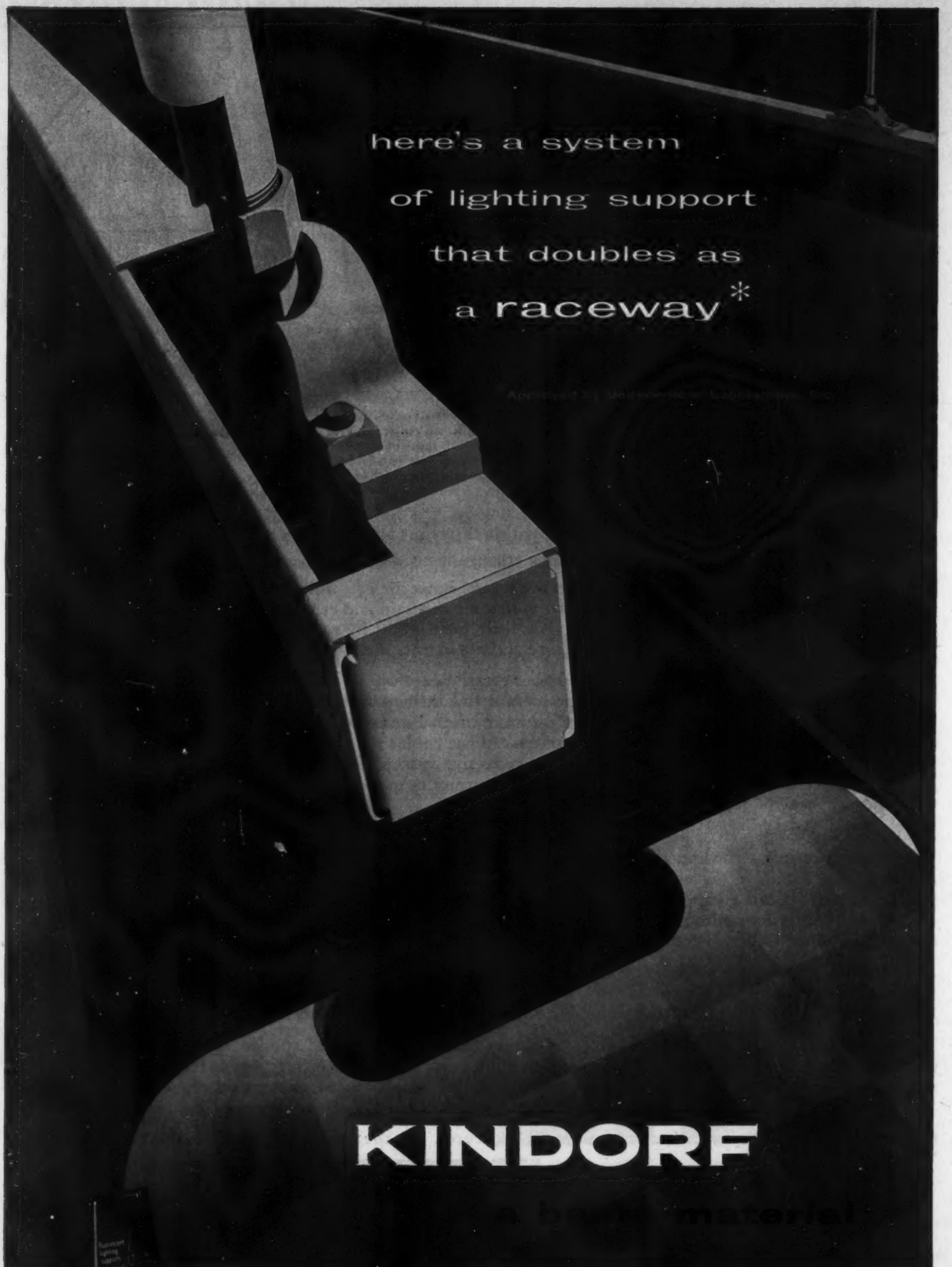
Infra Insulation, Inc., 525 Broadway, N. Y., N. Y., Dept. R-6

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The State of Construction

ANOTHER MONTH, ANOTHER RECORD — or rather, several. The April contract award total of $2,322,085,000, as reported by F. W. Dodge Corporation, was a new high for the month and kept 1955 firmly on the road to a new annual construction record. (For details, see page 368.) Dodge Vice Chairman Thomas S. Holden noted that recent construction volumes "have barely kept pace with the growth of the economy." He told a meeting of the National Federation of Financial Analysts Societies in New York that he saw nothing in the current construction picture to cause any great concern, although he was "inclined to question whether the rapid rate of contract letting that has been in evidence thus far is likely to be maintained throughout 1955." He felt, however, that the Dodge estimate of last November that Dodge totals for 1955 would reflect a six per cent gain over 1954 would probably turn out to be low. As to the current argument in some quarters that residential building has been moving too fast, Mr. Holden said that in his opinion no strong case has been made to support that contention.

Great Lakes in Louisville

WITH A SCHEDULE neatly timed to end at noon of the day the racing season opened at Churchill Downs, the regional conference of the Great Lakes District of the American Institute of Architects was held in Louisville April 29–30. Major features of the program were seminars starring engineer Fred N. Severud of New York and architect Vincent G. Kling of Philadelphia. Mr. Severud's talk on "What's New in Construction" was illustrated with slides on suspended structures. Mr. Kling's seminar was a discussion and display of presentation materials and methods. Regional Director Raymond S. Kastendieck presided at a business session at which he reported on actions of the national A.I.A. Board of Directors at its annual meeting late in March. The annual banquet program included a showing of the new movie just released by the Michigan Society of Architects (AR, May 1955, page 16).

Education in Practice

TWO SUMMER FELLOWSHIPS established by the New York architectural firm of Voorhees Walker Smith and Smith will provide architectural educators from two of the nation's schools with a new kind of field course in professional practice. Prof. Alexis Yatsevitch of the Department of Architecture of Rensselaer Polytechnic Institute and Prof. Roger C. Davis of the University of Virginia School of Architecture will each spend ten weeks beginning June 6 in the firm's offices, with the time divided among the major departments. Purpose of the fellowships, which will cover normal family budgets as well as expenses connected with the summer stay in New York, is "to give these instructors and many of their contemporaries a clearcut insight into architectural practice on a large scale," according to Ralph Walker of the sponsoring firm.

Automation at Penn State

A SHORT COURSE ON AUTOMATION primarily directed to the needs of engineers and management in metal fabricating plants is being offered by the College of Engineering and Architecture of the Pennsylvania State University June 13–17 on the main campus at State College, Pa. Noting that problems of plant design and production automation are "strongly interrelated," with layouts in automated plants requiring greater attention to flow requirements, materials handling, storage and shipping and receiving facilities, Assistant Professor of Industrial Engineering Chester Linsky, chairman of the seminar, expects the speakers will incorporate the problem of plant architecture in their presentations. Of particular interest to architects, Professor Linsky suggests, would be the panel discussions dealing with general problems of organization and operation of an automation program. It is hoped also that members of the architecture faculty will be available for discussion with visitors interested in architectural implications of automation.

N.I.A.L. Prize to Bunshaft

GORDON BUNSHAFT of New York, a partner and chief of design of the architectural firm of Skidmore, Owings & Merrill, was selected as the recipient of the first Prize in Architecture (Arnold W. Brunner Memorial) of the National Institute of Arts and Letters. Minoru Yamasaki, of the Detroit architectural firm of Leinweber, Yamasaki & Hellmuth, received honorable mention. This Prize in Architecture is N.I.A.L.'s first exclusively in the field of architecture.





Louisville headliners: Severud and Kling

Masonry Alliance

THE FUTURE OF MASONRY CONSTRUCTION is the common concern of the newly created Allied Masonry Council, which unites some historic competitors in a joint effort to maintain and increase the industry's market against the determined competition of metal and glass. Supporters of the Council, who have pledged themselves to the fullest exchange of information on inter-related problems to further their continuing aim of "better buildings of better quality at lower cost," are: the Structural Clay Products Institute, the Building Stone Institute, the Marble Institute of America, the Indiana Limestone Insti-

(Continued on page 16)



— Drawn for the RECORD *by Alan Dunn*

(Continued from page 15)

tute, the Mason Contractors Association of America and the Bricklayers, Masons and Plasterers International Union of America (AFL). Douglas Whitlock, S.C.P.I. Board chairman, who was named chairman of the new Council, predicted the pooling of research findings would result in "a service of unprecedented value to the industry, the architect, the investor and the general public."

Atomic Need: Basic Research

INDUSTRIALISTS AND SCIENTISTS meeting in San Francisco for a forum on atomic energy in industry sponsored jointly by the Stanford Research Institute and the Atomic Industrial Forum of New York heard a strong plea for more basic research as the great need in the atomic energy field today. It came from Dr. Glenn Seaborg, Nobel Prize winner and professor of chemistry at the University of California, who noted that only five per cent of the money that goes into research is used for basic science; the other 95 per cent is used on applied research. Disposal of wastes was one of the key problems he mentioned specifically as needing more basic research.

Nielsen Heads A.I.D.

CRUISING members of the American Institute of Decorators, holding their 24th annual conference aboard the T.S.S. *Olympia* en route to a five-week European tour, last month elected Marc. T. Nielsen of Chicago as their new president. Other officers named: H. Clifford Burroughes of New Canaan, Conn., chairman of the Board; A. Ralph Anthony, Boston, first vice president; Karl Lengfeld, San Francisco, second vice president; Miss Mary E. Dunn, New York, third vice president; Lyman W. Cleveland, Philadelphia, secretary; J. H. Leroy Chambers, Baltimore, treasurer; and Miss Kathryn L. Clawson, Dallas, assistant secretary-treasurer.

Master Plan vs. Campus Slum

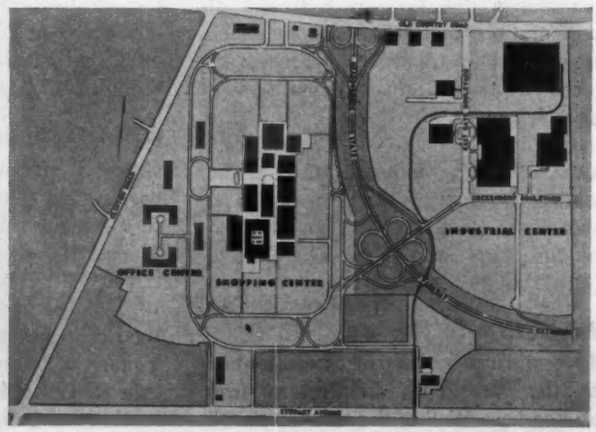
ADMINISTRATORS and procurement and fiscal officials of 372 colleges and universities across the nation, meeting in New York for the 34th annual convention of the National Association of Educational Buyers, heard Dean Olindo Grossi of the Pratt Institute School of Architecture warn against creating "campus slums" through crowding or haphazard construction as the demands for more space continue. Dean Grossi urged development of master plans for expansion for all campuses and acceptance of new ideas in design and materials — good design need not cost more, he noted, and "regardless of its past building record, the campus as it develops must embrace new architecture. It should be alive and ever changing if it is to be a real source for freedom of spirit and thought."

Northern Illinois A.I.A. Elects

A. REYNER EASTMAN has been elected president of the Northern Illinois Chapter of the American Institute of Architects. Other new officers: Charles E. Boettcher, vice president; Charles M. Bradley, secretary; and Donald Lippincott, treasurer.

ROOSEVELT FIELD SHOPPING CENTER is under way on 130 acres of former airfield in Nassau County, L. I., N. Y.; Webb & Knapp, developers; I. M. Pei & Associates, designers; Boehler & Brugnoni, architects; Skidmore, Owings & Merrill, architects for R. H. Macy Department Store; estimated cost, $30 million; opening, Fall 1956. Billed as the largest shopping center in the nation, with net rentable area of 1,050,000 sq ft in first stage (compared with 1,045,000 at Detroit's Northland and 970,000 at Westchester's Cross County) and 1,600,000 sq ft in final stage, the center will have 100 stores "of every variety" flanking 300,000-sq-ft Macy branch store on three sides; parking for 11,200 cars at a time. Plan anticipates 60,000 visitors and 27,000 cars per peak shopping day; 9,000,000 visitors per year; $80 million in business the first year. Office and professional buildings, with additional parking, will be built in later stage; industrial center is currently being developed by Webb & Knapp. Circular structure visible in model photo will shelter open-air plaza "comparable in size to Madison Square Garden"; this "community area" is intended as the heart of the plan, a pleasant place to walk or sit, a stage for exhibitions, promotions and entertainment: "a point of spectacle, a market place and a forum." The circular shelter, for which Engineer Paul Weidlinger is at work on structural studies, is presently conceived as a centrally supported roof, some 150 ft in diameter, of glass or plastic set in varying planes to give the effect of faceting. Its 40-ft steel support would be at ground level the axis for a "plastic" treatment of the pavement involving the use of steps and slight ramps to provide visual and functional variety







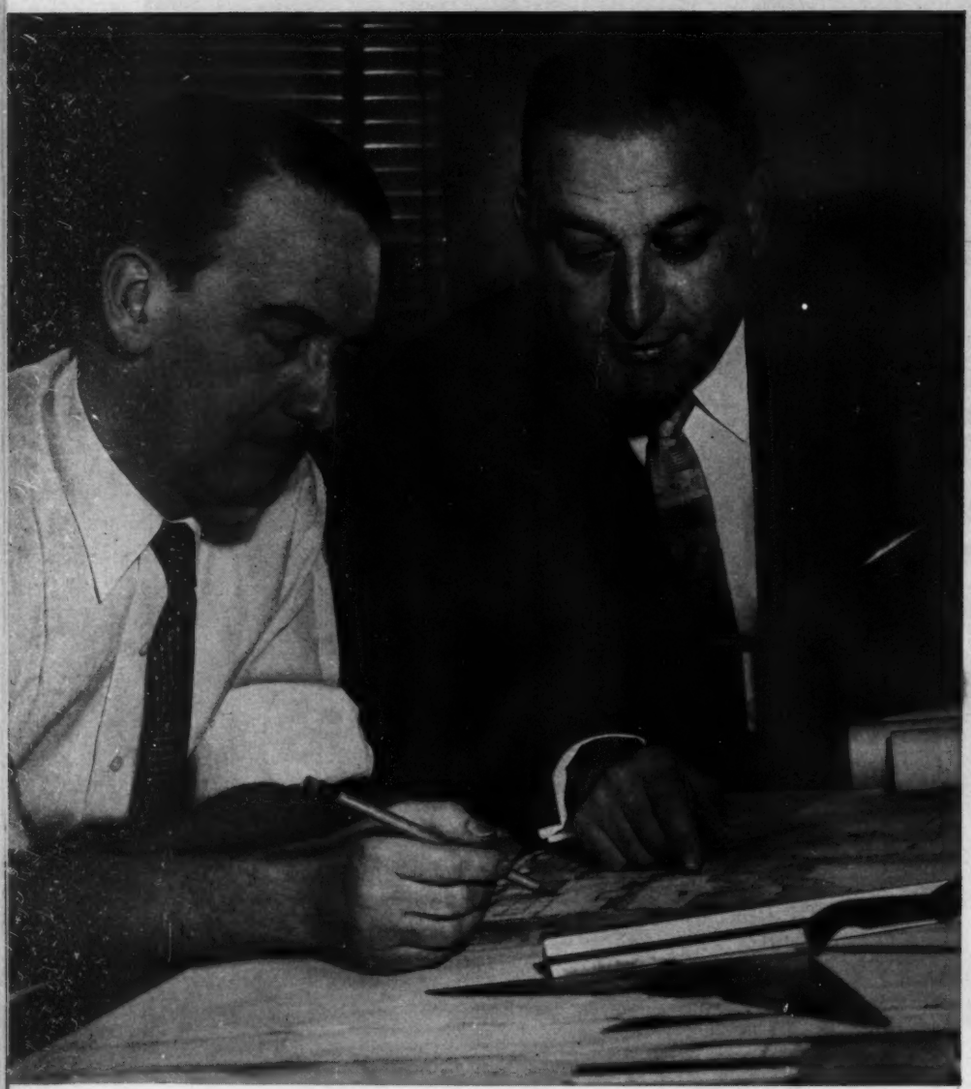
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OUR 102nd YEAR

CASE QUALITY VITREOUS CHINA PLUMBING FIXTURES

Insulite Roof Deck cuts
costs $475 on this





They cut exposed beam ceiling costs 19¢ per sq. ft. Edward Pitt, A.I.A., Arlington, Va. (left) and builder Arthur Pomponio were quick to recognize the growing appeal of exposed beam ceiling construction. How Insulite's new 3-in-1 product—roof deck, roof insulation and finished ceiling—helped them capitalize on this trend by offering exposed beam ceiling at far less cost, is shown in pictures at right.

Build better and save with

Send for complete information now! Actual on-the-job pictures and construction details show how to use new Insulite Roof Deck to build better for less. Write Insulite, Minneapolis 2, Minnesota.

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INSULITE IS A REGISTERED TRADE MARK

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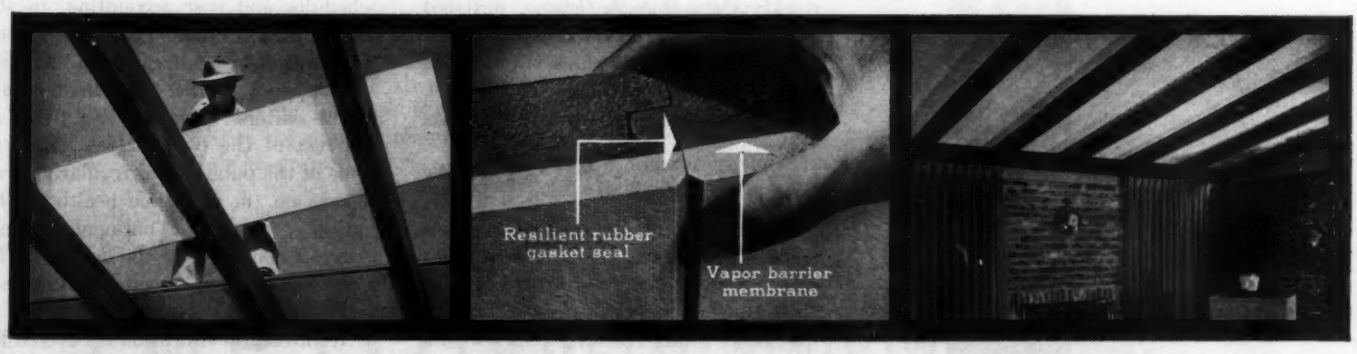
Made of hardy Northern wood

INSULITE DIVISION, Minnesota and Ontario Paper Company, Minneapolis 2, Minnesota

s exposed beam ceiling
s 2500 sq. ft. job



Trendsetter Home, Lake Barcroft Estates, Fairfax County, Va. Architect: E. M. Pitt, A.I.A., Arlington, Va. Builder: M. Pomponio & Sons, Arlington.



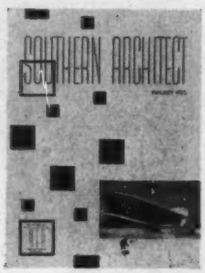
1. It's roof deck . . . Two by eight foot unit cuts application time as much as 45%. Only one material to handle. New Insulite Roof Deck eliminates need for separate roof boards, insulation, lath and plaster and ceiling finishing. Roof Deck can save 12 man-hours per 1,000 sq. ft. of surface compared with 2"x6" D&M roof sheathing.

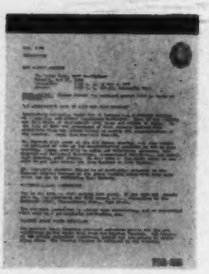
2. It's insulation with vapor barrier... No need for other insulation. Two-inch Roof Deck is comparable to 2" wood deck plus 1" fiberboard insulation and meets heat loss requirements for roof and ceiling construction. Absorbs sound better than wood or plaster. Exclusive vapor barrier protects against condensation within the unit.

3. And finished ceiling . . . The underside of Insulite Roof Deck is finished with a white flame-resistant surface at the factory. Lay Roof Deck over pre-finished beams and ceiling is done. No need to plaster, paint, stain or wax. Reduces labor and material costs. Available in 2'x8' units, 1½", 2" or 3" thick with or without exclusive vapor barrier.

A.I.A. BULLETINS: SURVEY OF AN EXPANDING FIELD

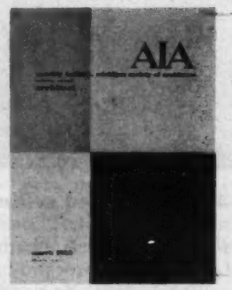












THE RECENT BURGEONING of new publications issued by A.I.A. chapters has been, to say the least, healthy. According to the most recent list from the American Institute of Architects' national headquarters, there are now 55 publications edited at the state and chapter levels. These include 26 published by state organizations and 29 published by chapters (these break down into 13 cities, 13 larger divisions of states and three boroughs in New York City: Brooklyn, Bronx and Manhattan).

The RECORD, which has been fortunate enough to see many of these bulletins regularly, was able to catch up with 43 of the publications, and has based this survey on them. Only one bulletin, published by the Utah Chapter, reported discontinuation, caused, says the former editor, by "the difficulty of enlisting active support from members of the Chapter." Although none of the other bulletins have been so desperate for material that they have had to cease publication, pleas from harassed editors for contributions from members are not at all an unusual sight.

The editing of publications for members' consumption was not so very long ago limited almost entirely to the Octagon, which publishes the monthly *Journal*, edited by Henry Saylor, and the bimonthly *Bulletin*, edited by the Department of Education and Research. A.I.A. headquarters has had its own share of new publications with the biweekly *Memo from the Octagon*, initiated a few years ago, and the monthly *Public Relations Newsletter*, which is published by A.I.A. Public Relations Counsel, Ketchum, Inc., and which made its appearance about a year ago.

The Range Is Wide

The state and chapter publications display a wide variety of size, content and apparent aims. In size, for example, they range from the 76-page Minnesota magazine, printed on slick paper with a second color on the cover, to a number of one or two page mimeographed monthly bulletins, some with colored letterheads, some without. (The Pasadena Chapter's *Information Please* livens its appearance by using yellow stock).

Many of the publications limit their editorial content strictly to chapter announcements and reports, some of them including as well published minutes of chapter meetings and committee reports. Others draw their news from outside sources, and some of these, directed to readers outside the profession, become more or less elaborate public relations organs.

Printing processes employed also vary widely. Of the 43 bulletins surveyed, 11 are reproduced by offset, 18 by letterpress, 10 by mimeograph and four by "Ditto." Twenty-five of the publications are supported in part by advertising, which appears in two of the mimeographed bulletins, in five of those produced by offset, and in virtually all of those using letterpress. Ads may simply be blocks of space carrying the name of the advertiser, or they may take a full page with illustration in the larger journals.

Common Interests

Among the current "hot topics" reflected in the publications, one certainly appears to be public relations, which has not only shown up on any number of agendas, but has been the subject of numerous feature articles — the Chicago chapter devoted two issues to the subject in six months. Equally interesting to the chapters, it seems, are all problems found in professional practice, from the "practical" questions of fee schedules and cost accounting, to the human considerations of the architect's relationship with his client and builder.

Occupying another considerable part of the editors' attention is activity in the rest of the construction industry; some of the publications regularly carry reports on the economic health of the industry, locally or nationally, while many of course cover the doings of the local Producers' Council and contractors' organizations.

Architectural education is covered by a few of the bulletins, mostly in the West, where some of the journals regularly report student activities at nearby universities.

(Continued on page 340)





James C. King
Home for Men,
Evanston, Illinois.
Architects: Holabird,
Root & Burgee, Chicago.
Contractor: Carroll
Construction Company,
Chicago. Photo:
Hedrich-Blessing, Chicago.
Windows:
Lupton Master
Aluminum Projected.



Designed for men . . . with Lupton Windows

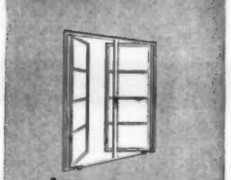
Bold planes and simple lines give this new building a look appropriate to its purpose — a home for men. To add to the feeling of openness and space the Lupton Master Aluminum Windows were furnished without muntins. Rooms are bright and airy, thanks to large fixed-glass panels combined with ventilating sash. Draft-free ventilation, so important to the elderly, is a finger-tip operation. And it always will be. Lupton Master Aluminum Windows never fall heir to the troubles of ordinary windows. They never need painting. Gone forever are the struggles to open and close paint-clogged windows — drafts that "leak in" when sash to frame contact is interrupted by thickening layers of paint.

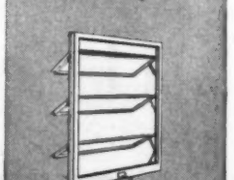
And, Lupton Master Windows stay "new" — never shrink, warp, rattle or swell. Maintenance costs practically disappear.

Why not add the advantages of Lupton Metal Windows — the assurance of quality that over 40 years experience in designing and manufacturing metal windows has made possible — the long-range savings through low maintenance — the efficiency of operation through sound design and construction — the wide range of styles and sizes to "fit" every building.

You'll find the Lupton Line in Sweet's — or write direct for complete information and data sheets.

MICHAEL FLYNN MANUFACTURING CO.
700 East Godfrey Avenue, Philadelphia 24, Pa.







LUPTON METAL WINDOWS

REG. U. S. PAT. OFF.

QUALITY APPROVED

Member of the Steel Window Institute and Aluminum Window Manufacturers' Association



All-New American-Standard Kitchen

a b c d

Cabinets of Steel for lasting appeal. This kitchen sparkles with beauty and efficiency—and it's made of steel to give long years of service. These new kitchen cabinets are easy to install . . . a unique Snap-Lock assembly channel aligns the cabinets, clamps them together, and fastens the base cabinets to a separate, telescoping sub-base. Only a pair of pliers is needed for assembly!

Wide Selection of cabinets and accessories. You can get American-Standard kitchen cabinets in a range of sizes and styles for greater flexibility in planning. New features include: handy hanging shelves, adjustable wire shelves in wall cabinets, corner cabinet with revolving shelves, high utility cabinet with sliding shelves for appliances, cabinets for built-in oven and range surface units.

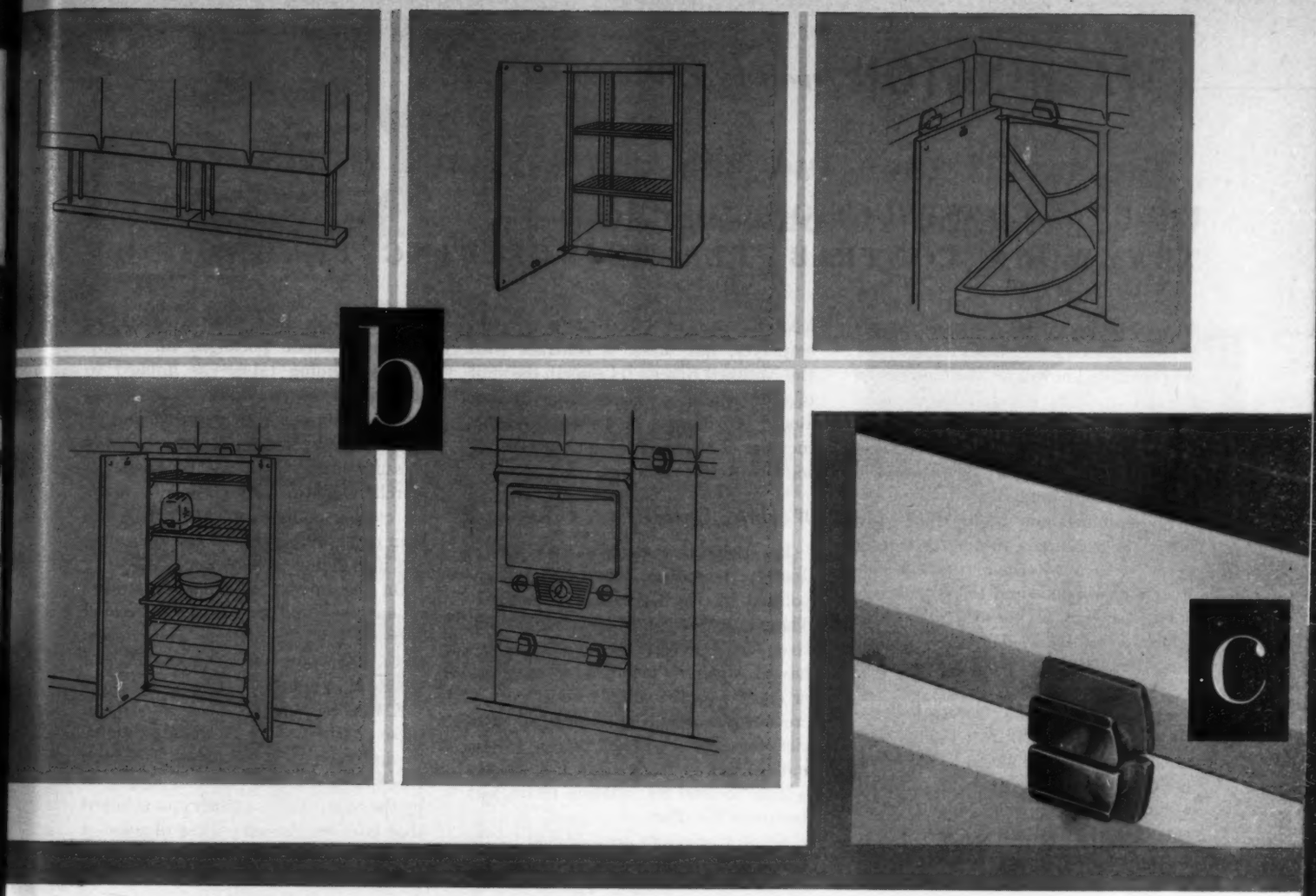
Color Accents. For an extra and easy-to-change touch of color, cabinet handles are backed up with plastic color-guards. These attractive color-guards are available in six colors, to harmonize or contrast with colors of the Micarta counter tops and famous American-Standard sinks. They protect the cabinet finish, can be quickly changed at any time, offer flexibility in kitchen decorating.

Cabinet Convertibility. This exclusive American-Standard feature lets the housewife change the shelf and drawer arrangements in her base and undersink cabinets, quickly and easily to meet her storage requirements. Sliding wire shelves and drawers can be added or rearranged at any time in dozens of combinations. And wall cabinet shelves are adjustable at one-inch intervals.

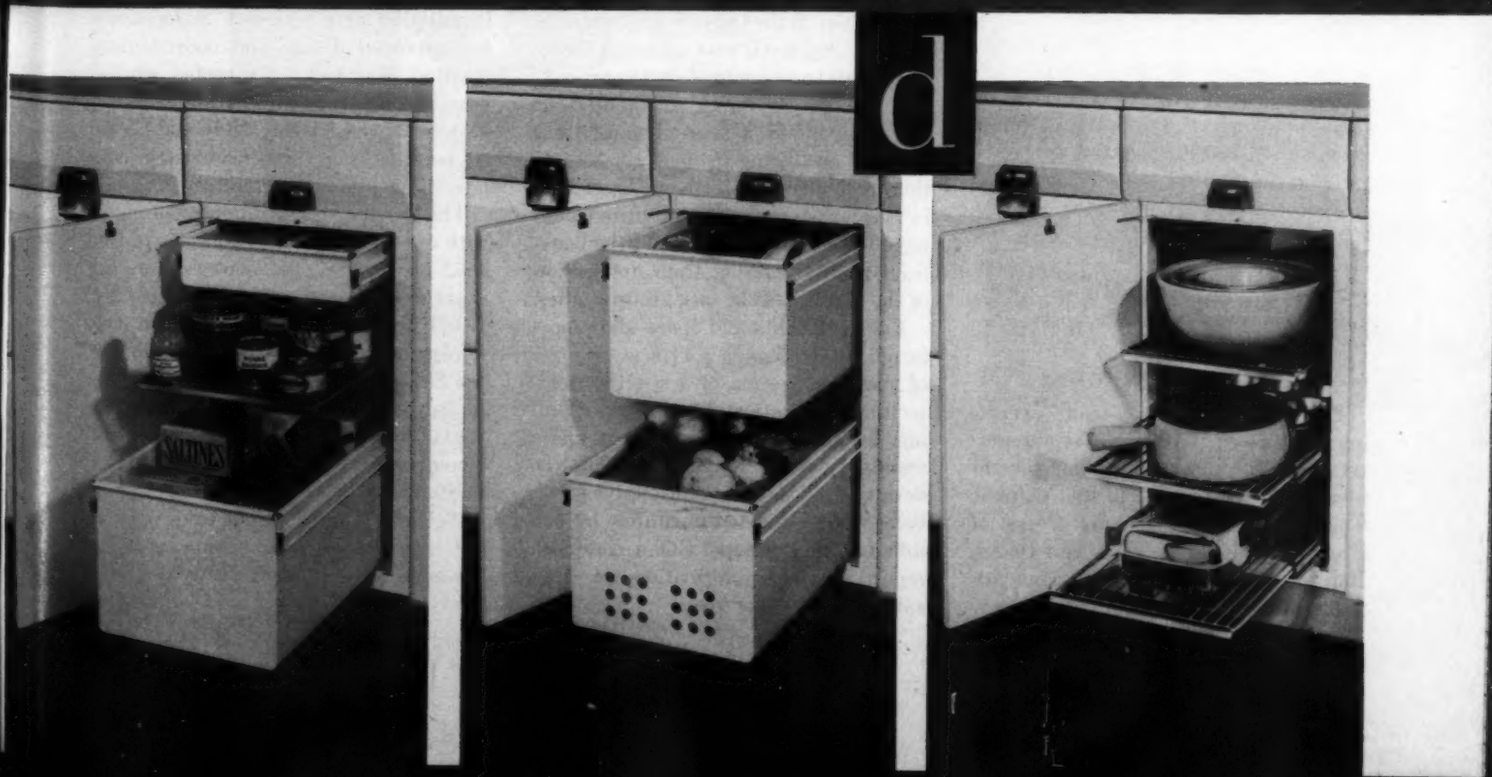
Another example of the many quality products made by the Plumbing and Heating Division of American Radiator & Standard Sanitary Corporation, P. O. Box 1226, Pittsburgh 30, Pa.

AMERICAN-Standard

Serving home and industry: AMERICAN-STANDARD · AMERICAN BLOWER · CHURCH SEATS & WALL TILE · DETROIT CONTROLS · KEWANEE BOILERS · ROSS EXCHANGERS · SUNBEAM AIR CONDITIONERS



n ... a study in function and design



FEDERAL CONSTRUCTION COUNCIL: TEAMWORK CONTRIBUTES TO BUILDING TECHNOLOGY

THE BEST FEDERAL GOVERNMENT TALENT in building technology fields is kept busy supplying its know-how to all interested Federal agencies through the Federal Construction Council, a little-publicized but important quasi-official organization born of a need for conservation in use of building materials.

The Council, now in its third year, was established as a means for helping agencies to solve their common construction problems and to keep abreast of current technical knowledge: to utilize their pool of knowledge to help themselves individually. It functions as a voluntary association of agencies with the advice and assistance of the Building Research Advisory Board. The coöperation with BRAB is effected by a contract between the National Bureau of Standards and the National Academy of Sciences, of which BRAB is a unit.

In a general way the activities of the Council benefit Federal construction technology by (1) distributing new technical knowledge to all Federal construction agencies; (2) assembling and pooling the vast funds of knowledge and experience from agencies for the benefit of all agencies; (3) serving as a neutral ground for discussing debatable matters in the field of building technology; (4) acting as a bridge between government and industry to their mutual benefit.

The specific benefits resulting for the agencies through savings in actual construction are reported to be very substantial, though of course they are not readily assessable because each agency is autonomous and because benefits derived in the field are not recorded. The Council's value is also attested by the very fact that several agencies have voluntarily, out of their own funds, initiated and carried on the work.

How the Council Operates

FCC is run by a seven-man "operating committee" consisting of representatives of NBS and the six chief government construction agencies: Atomic Energy Commission, Army Corps of Engineers, Bureau of Yards and Docks, Bureau of Reclamation, Veterans Administration, and Public Buildings Service. FCC has no officers and no paid employes; but under a contract with the National Research Council, the staff of the Building Research Advisory Board provides its "secretariat" and a member of the staff presides at Operating Committee meetings.

Working Units: Task Groups

But the real work of the Council is done by temporary "task groups" appointed by the Operating Committee. These units are composed of representatives of each Federal government agency having within its membership an expert or experts on the subject under consideration. Selection is not limited to agencies represented on the Operating Committee, but is made from any agency willing to lend its building technology brains to the effort.

Subject priorities are assigned by the operating committee with decisions based on information at hand. The task group, after making its study, reports to the operating committee and the latter decides what disposition will be made of the new information. All reports are made available to all government agencies desiring them.

The Council has been operated on a budget of about $45,000 a year — the sum of contributions from those agencies represented on the Operating Committee which in any given year may find themselves able to assign funds to the project. But the actual funds contributed to this program each year obviously fall short of measuring its real worth. The time and talent of scores of specialists in various construction activities would have to be included, as would the beneficial results deriving from application of the findings of the task group studies.

Ceiling heights and space allowances in office buildings is a typical example of the investigation of a strictly architectural application. The review of ceiling heights and the study of space standards used by agencies in the design of offices or administrative structures were conducted separately by two different task groups. But a combined report brought information on both subjects under one cover.

Other fields that task groups have explored include packaged air conditioners; loading tables, as applied to plumbing research; failures in built-up roofs; windows; warehouse design; effects of detergents on sewage systems; pressure drainage systems; plumbing research; climatic data related to needs for cooling equipment. There has also been a survey of Federal research projects in building technology.

On the current schedule are studies of opinions and practices of Federal agencies in such matters as electrical loads, self-contained air conditioners and specifying, sampling, testing of paints.

A limited number of the reports of these studies have been made available to members of the Building Research Institute, the BRAB affiliate supported by the construction industry; it is hoped that later on general release of some of them may be possible.

Industry Coöperates

On the roofing study, the BRAB brought private industry into the picture, sponsoring special conferences which provided the roofing task group with testimony from owners and managers, architects, builders and producers. Existing specifications, research already done, methods of design and installation were reviewed. Suggestions for improved design and construction resulted. The Council reported wholehearted coöperation from all industry sources tapped for this study and hopes to benefit from further industry collaboration on some of its future projects.

The Council was set up in accordance with one of the recommendations of the 1952–53 studies on conservation in government construction conducted by BRAB for the Defense Production Administration. It had a "trial run" during the first three months of 1953 and then in July of that year a year's full-scale trial of the Council was initiated through a contract between the National Bureau of Standards and the National Academy of Sciences. Contributions from participating agencies have made possible continuing the Council's activities ever since.

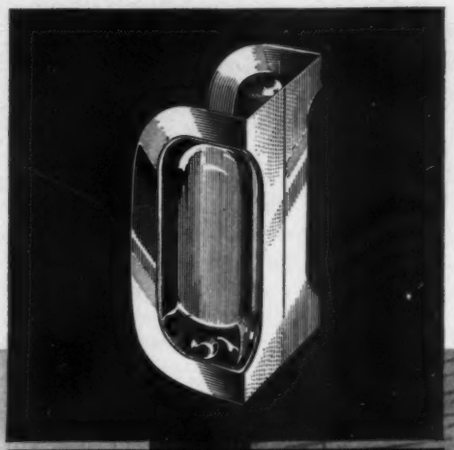
Sterling HARDWARE

Quality you can put your finger on . . .

NEW 883 POCKET DOOR PULL

This new 3-in-1 Pocket Door Pull is another exclusive Sterling product. It takes the place of an edge pull and two flush pulls and requires only one simple cutout in door. It prevents pinched fingers by keeping door edge always accessible when door is in pocket. Available in all popular finishes. Be sure to use Sterling sliding door track, hangers and accessories wherever quality counts.

STERLING HARDWARE MANUFACTURING COMPANY
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Pocket Door Lock
For bathroom and bedroom doors where privacy is desired. Simple installation with standard boring jig.



Pocket Door T-Frame
All steel T-Frame prevents warpage, makes pocket sturdier. Includes aluminum track, hangers and door guide.

STUDY WAYS OF RAISING $750 MILLION FOR SCHOOLS

EXAMINING the problem of paying for the 38,000 new classrooms Canada will need in the next ten years, a special research committee of the Canadian School Trustees Association has issued a report on "School Finance in Canada."

The problem involves raising $750 million for new construction and an annual $100 million for teachers' salaries. The three-way solution, as suggested by the trustees' committee, involves, first, greater assistance from municipal authorities through more uniform and equitable assessment on all property; the report points out the wide range in present tax rates from a low of two mills to a high of 84, and stresses the substantial amounts of tax-exempt property in the various provinces. Second, the report advocates the replacement of the present numerous provincial grants with a single, larger basic grant. And third, it calls for federal assistance in the form of an annual grant; one third of this would be paid on a per pupil basis to all provinces, two thirds as an equalization grant to provinces with low tax paying ability.

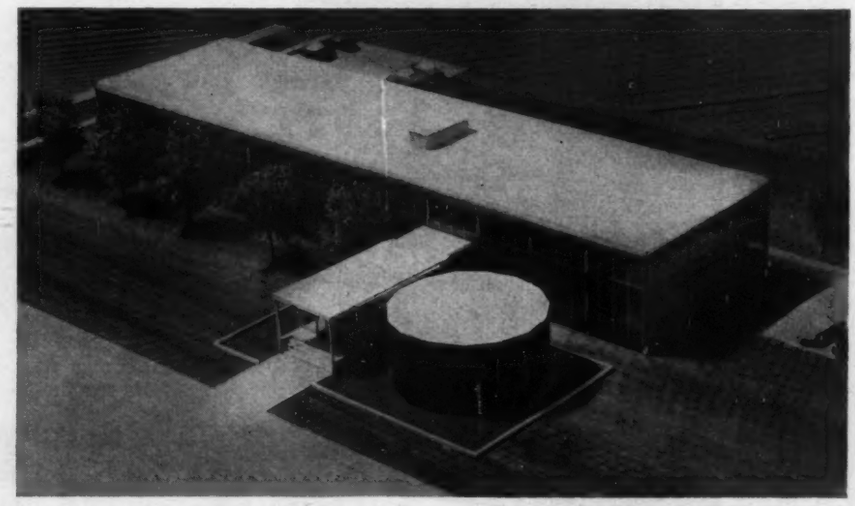
ARCHITECTS AS PLANNERS SUBJECT AT CONVENTION

SPEAKING at the recent three-day annual convention of the Province of Quebec Association of Architects, Edouard Fiset, Quebec City architect and planner, declared that "architects must play a major role in drawing up the master plan for urban centers and should try to regain the title of 'organizer of space.'" Mr. Fiset emphasized the necessity of establishing in the public and municipal mind that professional training has equipped architects to take the initiative in their communities as town or city planners. "We must always remember," he said, "that the architect is the first artisan of construction, that he must always remain there. The architect must participate more fully in the development of his environment. Above all, he must be a planner as well as a designer, and he must always think from the esthetic as well as the functional point of view."

(Continued on page 30)

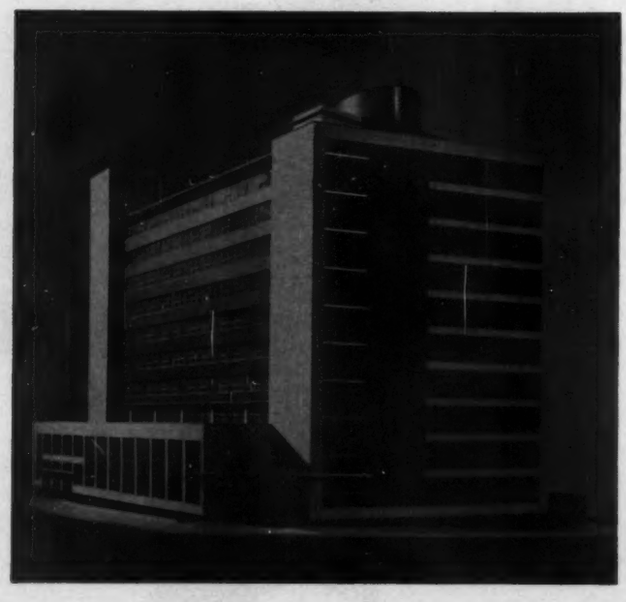
NEW BUILDING IN CANADA

1. Imperial Oil Company's projected engineering building, to be located at Sarnia, Ont., will be built of prefabricated "sandwiches" of colored porcelainized aluminum and foamed plastic and will be trimmed with aluminum; the cylindrical building attached to the main building is a 100-seat auditorium; John B. Parkin and Associates, Toronto, are the architects. 2. The $2,900,000 Customs House in Vancouver was begun in 1953, and is now nearing completion; the architects are C.B.K. Van Norman & Associates, Vancouver. 3. The recently completed Guy Towers office building in Montreal, by architects Greenspoon, Freedlander & Dunne, has underground garage for 100 cars



1

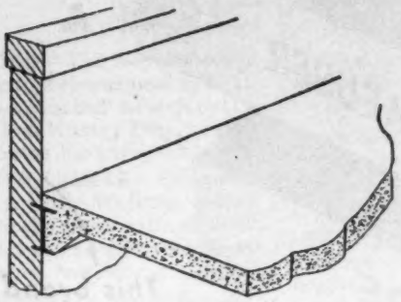
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3



How would you insulate this hospital roof?



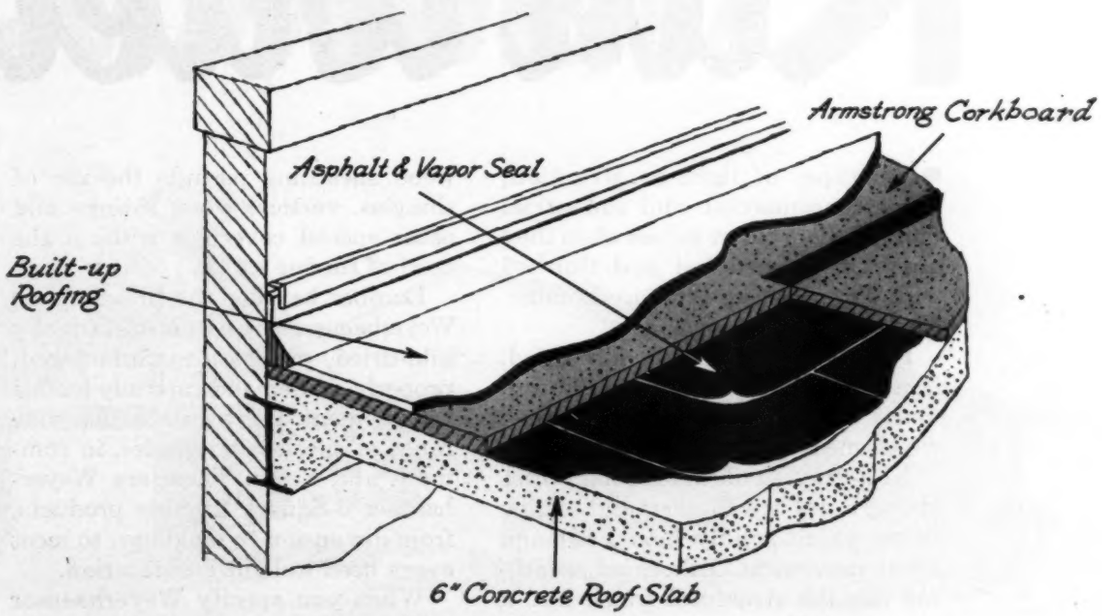
This hospital is to be located in a region where the average midwinter temperature is below 35° F. There is a 6" concrete roof slab, and a U-factor of 0.15 is specified for the roof construction. What roof insulation would you specify?

On this particular hospital roof construction, long insulation life is the number one requirement, followed closely by high insulating efficiency. That makes Armstrong Corkboard a sound choice for the job. 1½" of this efficient insulation, applied over a vapor seal, adequately meets the U-factor requirement. And as for durability, Armstrong Corkboard has an unequalled record of long life.

Armstrong Corkboard is a strong, tough material, that on many roofs has given more than 30 years of efficient, trouble-free service. It is made entirely of pure cork granules, compressed and baked into board form. Its unique cellular structure gives it great moisture resistance as well as unusually low thermal conductivity.

On jobs where service requirements are less demanding or cost is primary, you may want to specify Armstrong Temlok® or Asphalt-Impregnated Temlok. These are both efficient, low-cost fiberboard materials.

For full details on the three roof insulations made by Armstrong, call your nearest Armstrong office or send for your free copy of "Armstrong Roof Insulations." Address Armstrong Cork Company, 3806 Rock Street, Lancaster, Penna.



Armstrong ROOF INSULATIONS

Armstrong Corkboard • Armstrong Temlok • Asphalt-Impregnated Temlok



This brand name on lumber also brings you...

Product Qualities that increase building values:

Kiln-dried

● All types of light construction, home, commercial and industrial buildings, are better values when they are framed, sheathed and finished with Weyerhaeuser 4-Square Lumber. The reasons are so basic.

Framing, scientifically kiln-dried, is more stable. Its use contributes much toward sturdy, rigid framing, which means true building economy.

Kiln-dried lumber sheathing forms strong durable wall, floor and roofing bases which solidly hold nails and resist movement. Kiln-dried sheathing ties the structural frame into a strong, stable unit to carry all the finishing materials joined to it. Also, wood sheathing permits the use of shingles, vertical wood sidings and other special coverings without the need of furring strips.

Lumber bearing the brand name Weyerhaeuser 4-Square is scientifically kiln-dried, precision-manufactured, properly graded and carefully loaded for shipment. It is available in a wide range of species and grades, in commons and clears. There are Weyerhaeuser 4-Square Lumber products, from dimension to moldings, to meet every need in light construction.

When you specify Weyerhaeuser 4-Square Lumber and other wood products, you gain maximum values.

Weyerhaeuser

ST. PAUL 1,

WEYERHAEUSER PROVIDES DESIGNERS WITH A VARIETY OF LUMBER PRODUCTS

PLYWOOD—The Weyerhaeuser 4-Square plywood line now includes beautiful new Knotty Cedar and Knotty Pine, as well as Douglas Fir plywood.

TREATED LUMBER—Pressure-treating with Wolman salts* extends the service life of lumber that is exposed to insects and decay. *T.M.REG.

SHINGLES—The Weyerhaeuser 4-Square Kolorite line includes top quality Western Red Cedar shingles, shakes, and aristocratic hand-split shakes . . . natural finish or stained in 16 colors by the exclusive Kolorite process.

SIDINGS—All the basic patterns, in many Western species, including style leaders such as bevel and bungalow, the new Rustic Red Cedar, and special vertical patterns.

PANELINGS—Standard patterns and special patterns, in a wide choice of species and grades . . . plus the plywoods listed above.

UPPERS—The Weyerhaeuser 4-Square line includes softwood floorings, moldings, stepping, finish items, etc., in Western species.

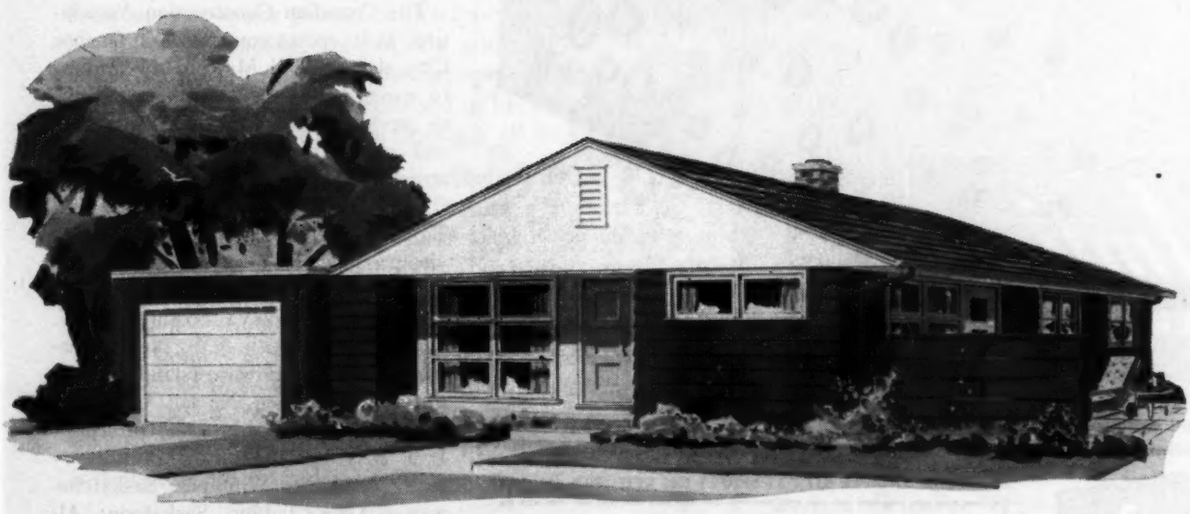
GLUED-UP LUMBER—Edge-glued lumber now includes sidings, stepping, and finish up to 30" wide, in various Western species.

WEYERHAEUSER 4-SQUARE KILN-DRIED LUMBER is produced in a wide range of trade-marked items—in a variety of species, grades, and patterns. Thus it is possible for architects to specify in accordance with available local supplies.

Weyerhaeuser 4-Square Lumber is produced in many Western species, including Douglas Fir, West Coast Hemlock, Western Red Cedar, White Fir, Spruce, Idaho White Pine, Ponderosa Pine, and Western Larch.

Precision manufacture, kiln-drying, uniform grading, and careful handling and shipping add assurance that Weyerhaeuser 4-Square products will meet architects' specifications.

Lumber



Sales Company

MINNESOTA

THE RECORD REPORTS

NEWS FROM CANADA

(Continued from page 26)

New Officers Elected

Delegates elected architect Edward J. Turcotte of Montreal to succeed Lucien Mainguy, Quebec City, as president of the association. Other election results: Henri Mercier, Montreal — first vice president; H. A. I. Valentine, Montreal — second vice president; Randolph C. Betts, Montreal — honorary secretary;



Ontario sales office and warehouse for Anthes-Imperial Company, Ltd., heating and plumbing equipment manufacturers, was designed by Toronto architects Marani & Morris

Gerard Venne, Quebec — honorary treasurer; George de Varennes, R. E. Bolton, F. J. Nobbs, C. David Goodman, Pierre Morency, S. A. Cyr, Arthur Lacoursiere, C. L. Douglas, Edouard Fiset, and Maurice Mainguy — members of the Council; John Bland, H. Ross Wiggs, P. C. Amos, Lucien Mainguy, E. J. Turcotte, Henri Mercier, R. E. Bolton, A. J. C. Paine (ex-officio) and Maurice Payette (ex-officio) — delegates to the Royal Architectural Institute of Canada. The executive secretary is Bernard M. Deschenes.

C.C.A. ELECTS NEW HEAD AT QUEBEC CONVENTION

The Canadian Construction Association, at its recent convention in Quebec City, elected W. G. Malcom of Winnipeg to succeed Raymond Brunet, O.B.E., as president. Mr. Malcom is president and general manager of Malcom Construction Company Ltd.

A. Turner Bone of Montreal and Tullis N. Carter of Toronto were elected vice presidents.

Provincial vice presidents are: Newfoundland and Nova Scotia — S. W. Kennedy, Yarmouth, N. S.; New Brunswick and Prince Edward Island — R. L. Parsons, Moncton, N. B.; Quebec — W. Z. Marshall, Montreal; Ontario — L. J. B. Forbes, Toronto; Manitoba — E. J. W. Akins, Winnipeg; Saskatchewan — Allan Tubby, Saskatoon; Alberta — Charles A. Strollery, Calgary; British Columbia — M. L. Barr, Vancouver.

F. R. Murray of Montreal is honorary secretary, and D. L. Donaldson of Ottawa honorary treasurer.

(Continued on page 32)

Put **America's most beautiful flooring** in that new office building...



Amtico
RUBBER FLOORING

AMERICAN BILTRITE
RUBBER COMPANY
TRENTON 2, NEW JERSEY

In Canada—American Biltrite Rubber Co. (Canada) Ltd., Sherbrooke, Quebec

- Lifetime Economy
- Easy Maintenance
- Sound-Deadening
- Luxurious Beauty
- Cushioned Resilience
- Fire-Resistant



26 COLOR SAMPLE KIT . . . YOURS ON REQUEST

AMTICO, Dept. AR-3, Trenton 2, New Jersey
Gentlemen:
Please send me free box of 4" x 4" samples of Amtico Flooring in standard 1/8" gauge and all 26 stock colors—also illustrated literature.
NAME.....
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(Please attach coupon to your business card or letterhead)

Contractors prove sanitary drainage systems of copper tubes and fittings cost less

✱ *Contractor "A" bid an "all copper" job for a housing development—water* and drainage lines. *His bid was 10% lower than others based on copper for water pipe only.*

✱ *Contractor "B" was awarded a job. Before start owner changed specification to copper. Completed job cost $19.01 less than original estimate.*

✱ *Contractor "C", on his first copper drainage system, cut installation time ⅓, compared with similar size jobs using heavy wrought or cast piping.*

**Names and addresses furnished on request.*

Long lengths and light weight. ANACONDA Copper Tubes for sanitary drainage systems come in standard 20′ lengths. The light weight makes them easy to install and the 20′ lengths save time and fittings when long runs are required. Light weight also permits more pre-assembly work at the shop. Even large units can be easily handled. A copper tube and fittings installation weighs about ¼ as much as ferrous materials.

Fast, easy-to-make joints. Solder-type fittings save hours. No threading, no pouring and caulking of lead. No heavy, cumbersome equipment needed. The few tools and accessories used to install smaller diameter copper tube water lines are all you need.

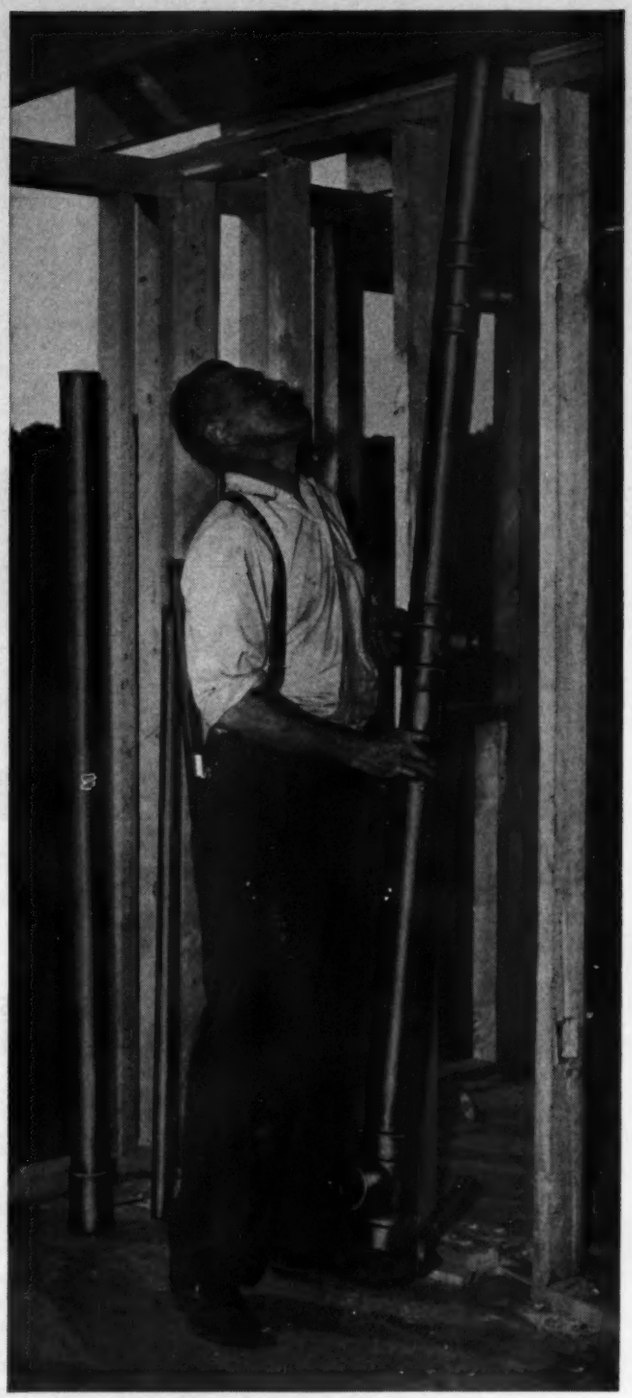
Saves carpentry and space. You can install a 3″ copper tube stack with fittings within a standard 4″ width partition. There's no need to plan for wide plumbing walls or "build-outs." The trim copper tube and compact fittings give greater freedom of placement . . . reduce cutting of studs and joists.

Base your next bid on an "all-copper" job. Prove its economy to yourself *and* the builder. To get your free copy of "Copper Tube Drainage Systems" which gives information on tubes, fittings and their installation, fill in and mail the coupon. 5414 (Rev.)

ANACONDA®

COPPER TUBES

Sold only through recognized distributors



ONE MAN EASILY POSITIONS this 3″ prefabricated stack which fits in a standard 4″ width partition. Anaconda offers you both Type M Tube and the new lighter-weight Copper Drainage Tube, Type DWV.

FREE BOOKLET!

The American Brass Company, Waterbury 20, Conn.
(In Canada: Anaconda American Brass Ltd., New Toronto, Ont.)

Send me free booklet, "Copper Tube Drainage Systems," which tells how I can cut costs with copper.

NAME .....

COMPANY .....

STREET .....

CITY.....**ZONE**.....**STATE**.....

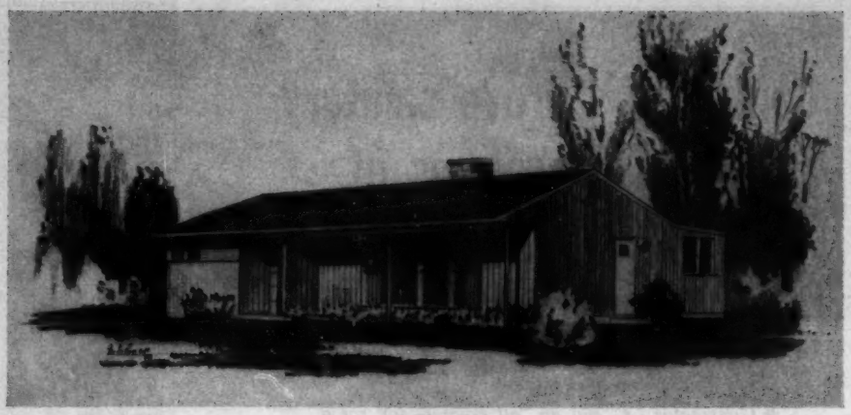
THE RECORD REPORTS

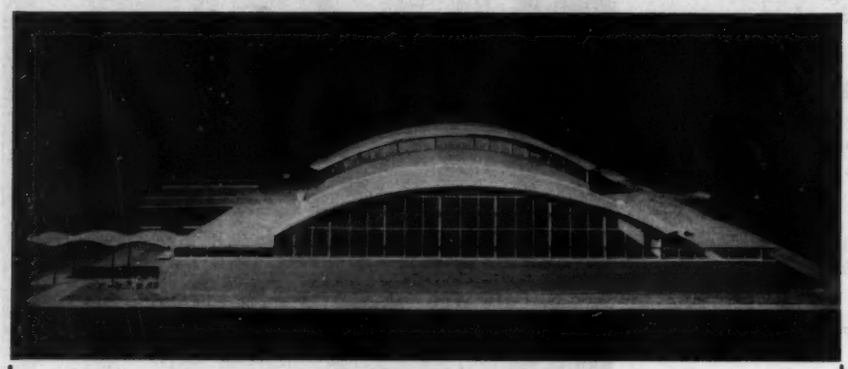
NEWS FROM CANADA

(Continued from page 30)

CMHC SEEKS NEW DESIGNS FOR REVISED PLAN BOOKS

The Central Mortgage & Housing Corporation has announced its plans to revise its plan books "Small House Designs," and is looking for architect-designed bungalows, split-level, two-story and one-and-a-half story houses.





From CMHC's books "Small House Designs": center—a three-bedroom, one-and-a-half story house by architects Wilson & Newton, Toronto; top—a two-bedroom bungalow by architect S. Lloyd, Victoria, B. C.; bottom—a two-bedroom split-level house by architect, K. R. D. Pratt, St. Vital, Man.





For designs accepted, the corporation offers two systems of remuneration: a flat and final fee of $600 for a complete set of working drawings, or an initial fee of $200 for the working drawings and a royalty of $5 for each set of drawings sold. In both cases, the architect will retain the copyright to his design.

The current books, "Small House Designs; Two-Story and 1½-Story Houses" and "Small House Designs: Bungalows and Split-Level Houses," were published in November 1954.

BRITISH FIRMS TAKE HOLD IN CANADIAN BUILDING

According to a recent survey by *The Financial Post*, British general contrac-

(Continued on page 36)

Edsel Ford Senior High School
Architects and Engineers: Eberle M. Smith Associates
Project Manager: Stewart S. Kissinger
General Contractors: O. W. Burke Co.

Hollow Metal *at its best*

This too is "HOLLOW METAL."

Once again, SUPERIOR FIREPROOF DOOR & SASH COMPANY, INC., has been chosen to furnish the "HOLLOW METAL" for an outstanding project.

This time, THE EDSEL FORD SENIOR HIGH SCHOOL.

Doors and frames constitute only a portion of "HOLLOW METAL." Arched openings as shown in the above view, 104 feet long, and multi-unit interior and exterior borrowed lite units are the mark of a true Hollow Metal Man.

"HOLLOW METAL" is the mark of a trade that has the ability to coordinate and fabricate many related sheet steel products.

It is not an afterthought of manufacturing a few more items. Rather it is the experience of having made these specific related products over a long period of time.

Thirty-five years of experience in manufacturing "HOLLOW METAL" has given us the ability to combine planning and production with economy into a service for the construction industry.

Superior FIREPROOF DOOR & SASH CO., INC.

EXECUTIVE OFFICES: 4175 PARK AVENUE, NEW YORK 57, N. Y. • PLANTS: NEW YORK AND SCRANTON, PA.



ST. PATRICK HIGH SCHOOL, CHICAGO

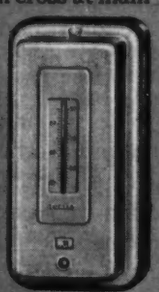
Architects: Belli & Belli • Engineers: W-B Engineering Co. • Contractors: W. T. Mahoney & Sons, Inc.; Plg., L. J. Keefe Co.





Quadrangle with reflecting pool. Faculty building left facing south has blue porcelain enamel panels, clear glass and blue green fibre glass drapes. Chapel, in center, with plastic sky domes is connected by stained glass cloister to school building right. North exposure of the school has clear glass and gold colored fibre glass drapes.

Dramatic 70 ft. high cross at main entrance is stainless steel. Drapes behind clear glass windows are blue green fibre glass. Yellow terra cotta panels have religious insignia in black. Colors thruout the buildings including the gym are attractive.





Gymnasium type guard for thermostat

No Danger of Scalding Showers, Water Economy, too is obtained with Powers Thermostatic Control for 50 showers.



No Losses from OVER-heated Water. Hot water generator also is Powers Controlled.

POWERS Automatic Temperature Control

Is Used Throughout this Colorful Modern School

for the Heating and Ventilating System, Hot Water Generator and Shower Baths

Utmost Fuel Economy, Thermal Comfort and Convenience are assured here with a Powers Control System. Users often report 25 to 50 years of reliable service with a minimum of repairs.

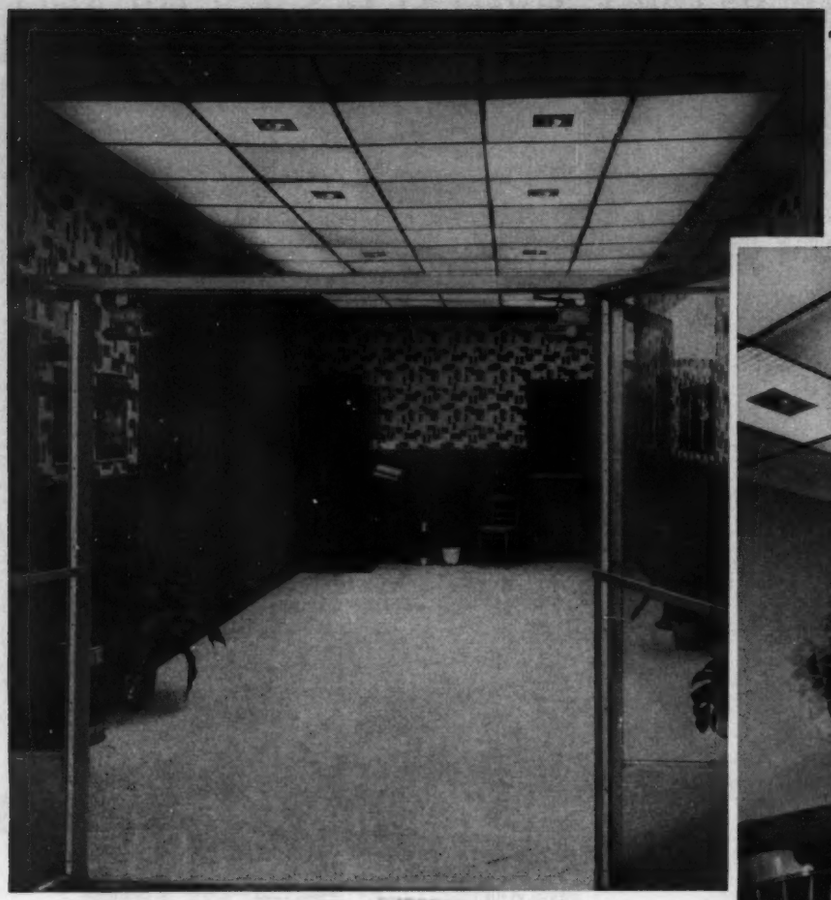
For more than 60 years the name POWERS has stood for quality temperature control, proper installation and SERVICE if required.

Next time a problem of temperature or humidity control arises call POWERS. No other single firm makes a better line of thermostatic controls for heating, air conditioning, hot water generators and all types of shower baths.

THE POWERS REGULATOR COMPANY

SKOKIE, ILL. • *Office in Chief Cities in the U.S.A., Canada and Mexico*

Over 60 years of Automatic Temperature and Humidity Control



SKYLIKE Skyceil



KYCEIL Area-Lume Lighting Systems have been conceived and designed in line with the increasing importance of complete area illumination. The trend in modern architectural design with its simplified large interior areas points up the need for this type of lighting.

The problem has been approached with several basic requirements in mind. To begin with, the system must be one that is readily adapted to a multiplicity of architectural design requirements and ceiling materials. Installation must be simple, economical and adaptable to any ceiling construction. It must provide the quality of light and type of over-all distribution essential for area illumination. And, it must be designed to achieve architectural harmony—an integral part of the plan, and not an "added appendage of lighting."

SKYCEIL is the answer — as its many and highly successful installations prove. Architects, contractors, lighting engineers and all concerned with this modern lighting trend will find its detailed story of great interest and value. To get your copy of the "Skyceil Story" (soon off press) send in your request now to get on the preferred first-mailing list. Or if you have any immediate questions, send them to our New York Office for a quick reply.

*AREA-LUME LUMINOUS OVERALL CEILING LIGHTING BY

A NEW CONCEPT IN AREA-LUME* CEILINGS

Combining Silvered Bowl and Fluorescent Lamps

SKYCEIL FEATURES

- Permits combination of silvered bowl incandescent lamps and fluorescent lamps in any ratio or combination.
- Complete structural ceiling grid to support lighting elements and standard acoustical materials.
- Offers unlimited design possibilities from complete ceiling of light to tailor-made luminous panels surrounded by opaque acoustical areas.
- Conditions of building surfaces above the ceiling level does not affect the illumination.
- Accessories available for introduction of accent or special purpose lighting element.
- Will fit areas of any dimension.

LIGHTING ADVANTAGES

EFFICIENCY:

Performance data under typical service conditions shows Skyceil combination system to be 30% to 40% more efficient than conventional luminous ceilings using fluorescent lamps alone. This increase in efficiency results from more efficient distribution and control of light by the Skylike silvered bowl fixture and from considerably lower depreciation losses.

MAINTENANCE:

Skylike units which comprise the basic lighting element are designed to be relamped from the floor using pole type lamp changers. The silvered bowl lamp carries its own sealed reflector and each relamping restores the unit to initial efficiencies. Occasional cleaning of the Skylike reflectors is easily accomplished.

COMFORT:

Skyceil offers a new comfort factor in lighting by eliminating the unpleasant contrast in brightness of lighted fixtures against adjacent unlighted ceiling backgrounds. Skyceil provides a complete structural framework for recessed fixtures in which the surrounding adjacent areas are softly luminous, eliminating all unpleasant brightness contrasts.

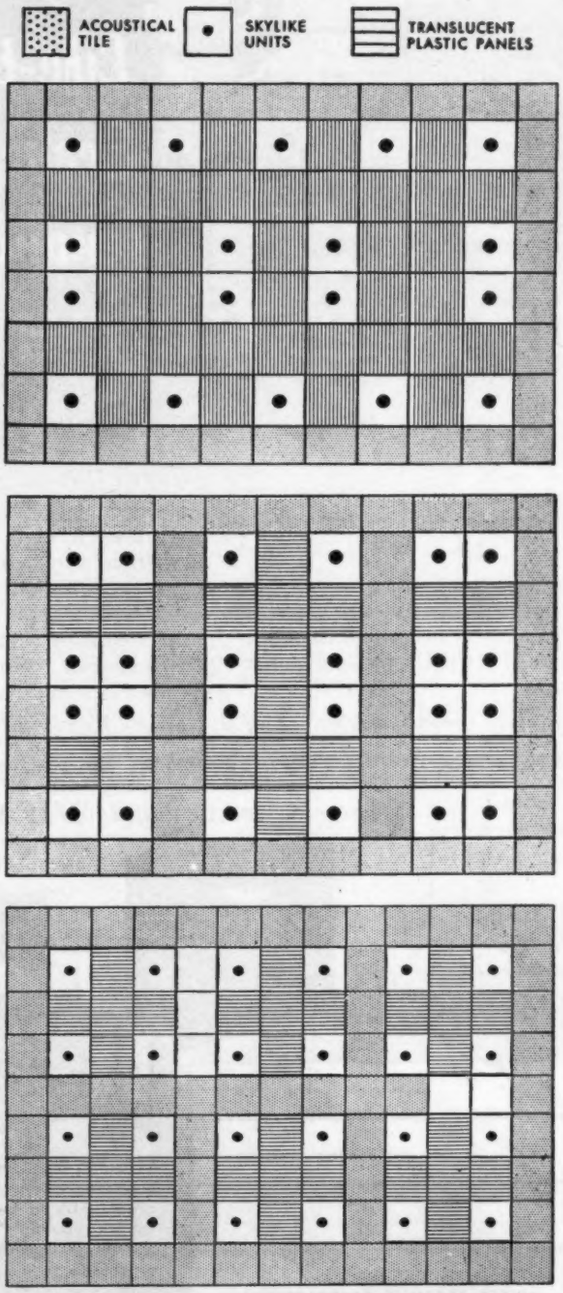
SKYCEIL LIGHTING SERVICE

This service offers actual plans whereby the Skyceil System can be installed economically to meet any structural or decorative requirement and also provide the desired illumination. Just send us details and ceiling plan—We'll do the rest. No obligations.

SKYLIKE
LIGHTING, INC.
A SILVRAY ASSOCIATED COMPANY
RKO BLDG. • RADIO CITY • NEW YORK

DESIGN POSSIBILITIES

Lighting elements may be varied to suit requirements. An infinite variety of silvered bowl incandescent and fluorescent combinations are possible to provide any range of lighting levels desired in any size area.





Life-time Economy PLUS Tenant Appeal

DWYER KITCHENS

four sizes . . . 24 to 60 inches wide. Gas or electric.

Steel is sturdy throughout . . . Refrigerator interiors are genuine vitreous porcelain on steel, never rust out and easy to keep fresh and clean. Work tops and fronts are porcelain. Never require repainting, dirt and grease wash off easily.

From hinge to tiny switch, every part of a Dwyer Kitchen has been designed and made for long, tough service.

For rarely needed service, every mechanical part is accessible *from the front* . . . no need to disturb the kitchen assembly.

Made by Specialists . . . Dwyer Kitchens are engineered, manufactured in their entirety . . . and *guaranteed* by an organization which has specialized in compact kitchens for over a quarter century. They are easy to install . . . simple to service . . . last indefinitely.

Write for complete bulletins.

DWYER PRODUCTS CORPORATION Michigan City, Indiana

The new and beautiful **DWYER "400"** graces the room as a piece of smart furniture



Cooking top, porcelain sink and counter top and storage space. Easy to install without costly remodeling. May be had without sink. Rich mahogany or blonde color. Ask for bulletin.

Mail Coupon for bulletin and complete information

Name

Address

Town State

DWYER PRODUCTS CORPORATION
Dept. F65, Michigan City, Indiana

THE RECORD REPORTS

NEWS FROM CANADA

(Continued from page 32)

tors and builders, subjects of some discussion lately among their Canadian opposite numbers, consider themselves successful enough to want to continue competing for Canada's construction business.

Although few of the British firms managed to land Seaway contracts, the *Post* reports, most are counting on some of the work coming out of the Seaway construction — port development, industrial building and residential construction. And most of them have showed themselves able to take a good share of the general contracts; so successful that one British company previously engaged only in specialized contracting has recently extended its operations into the field of general contracting.

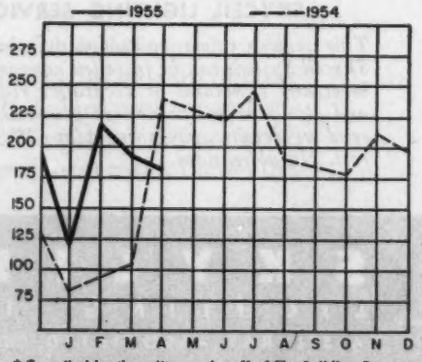
NEWS NOTES

The University of Toronto will institute next fall a one-year course leading to a master's degree in town planning; this will replace a two-year course dropped last year because of lack of funds; candidates will need a bachelor's degree, and are eligible for the $1200 annual fellowships awarded by Central Mortgage and Housing Corporation.

. . . **The Central Mortgage and Housing Corporation** will award 12 fellowships and three bursaries in the academic year 1955–56 to assist students of community planning and housing; information is available from CMHC. . . .

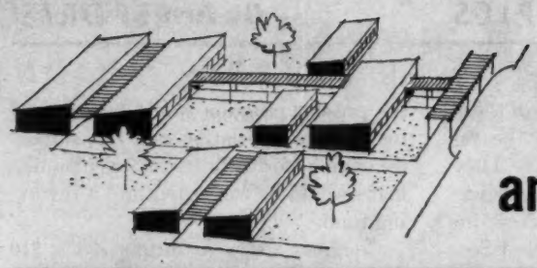
"Best Apprentice of the Year" was sheet metal worker Terence E. Robb of Sault Ste. Marie, winner of the Ontario Association of Architects' Craftsmanship Award; the award was presented by Robert G. Calvert, O.A.A.'s public relations director.

Contracts Awarded: Comparative Figures*
(in $ million)



* Compiled by the editor and staff of *The Building Reporter*, from information collected by MacLean Building Reports

(More news on page 38)



NOW—low-cost walk, window and entrance weather protection



KAWNEER
all-aluminum prefabricated

CANOPY

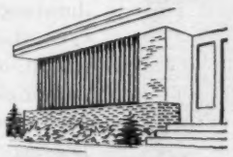


entrance protection



walk protection

K-LOUVER



window protection



overhang addition

School design can be simplified with Kawneer's Sun-Control and weather protection products. You have great flexibility with the prefabricated sections enabling you to cover almost every glass opening and passageway to design specifications. The advantages far exceed the relatively low cost. Both products are made of heavy-gauge alumilited aluminum which means long, maintenance-free life. The reflective surface assures cool areas. The unique shapes such as the "W" of the canopy sections provide and encourage ventilation, yet protect from rain, and snow. The quick and easy erection means a faster completion date and fewer labor hours. Fill out the coupon below to learn more about Kawneer Sun-Control and Weather Protection products, and how they can be adapted to your school plans.

Kawneer
General Offices
NILES, MICHIGAN

Kawneer Company, Niles, Michigan
Gentlemen:

_____ Please send me further information on the Canopy and K-Louver.

_____ Have your representative contact me.

Name_____

School or Firm_____

Street_____

City_____ Zone_____ State_____

PROPOSE MAJOR CHANGES FOR "ADVANCE PLANNING"

THE CONGRESS last month had before it the Administration's request for action on the country's non-Federal public works potential. The new housing amendments of 1955, introduced late in April, called for important changes in last year's law, which established the third advance planning program.

For one thing, the proponents of these changes sought to redesignate the reserve of planned public works. They said it should be referred to as a "reservoir" rather than a "shelf." New introductory language of the revised Section 702 would make it clear that a reservoir rather than a shelf of planned public works is intended, said an analysis of the new amendments.

The July 1, 1957 expiration date for the present program would be removed by the new legislation and the authorized money for the interest-free planning loans would be converted into a revolving fund.

Congress last year authorized a $10 million amount to put the advance planning scheme back in business. There were two similar previous programs which had expired — all operating within the past 10 years.

In bringing these new recommendations to Congress, sponsors of the bill referred to the President's Economic Report of January 20, this year. This said in part: "A problem of great interest . . . is the stimulation of public works planning in states and localities. Many smaller communities have projects within their master development plans for which funds are not immediately available to produce preliminary engineering surveys and designs. Assistance to such communities would help them to develop plans for public works ready for initiation, which otherwise would take months to prepare in case of need. Such a reservoir of planned public works should be of considerable magnitude to be effective."

Only $1.5 million of the $10 million authorization was appropriated by Congress last year. The President considered this "a good beginning but no more than that."

Past experience with the advance planning scheme indicates that the need for preparedness, being itself continuous, is not well met by programs of limited duration, said the report.

On that basis was the revolving fund sought, and the substantial increases in authorization and appropriation. The 1955 amendments would authorize the housing administrator, who administers the program through the Community Facilities Administration, to make the available funds do extra duty through the revolving process instead of converting them back into the Treasury upon repayment.

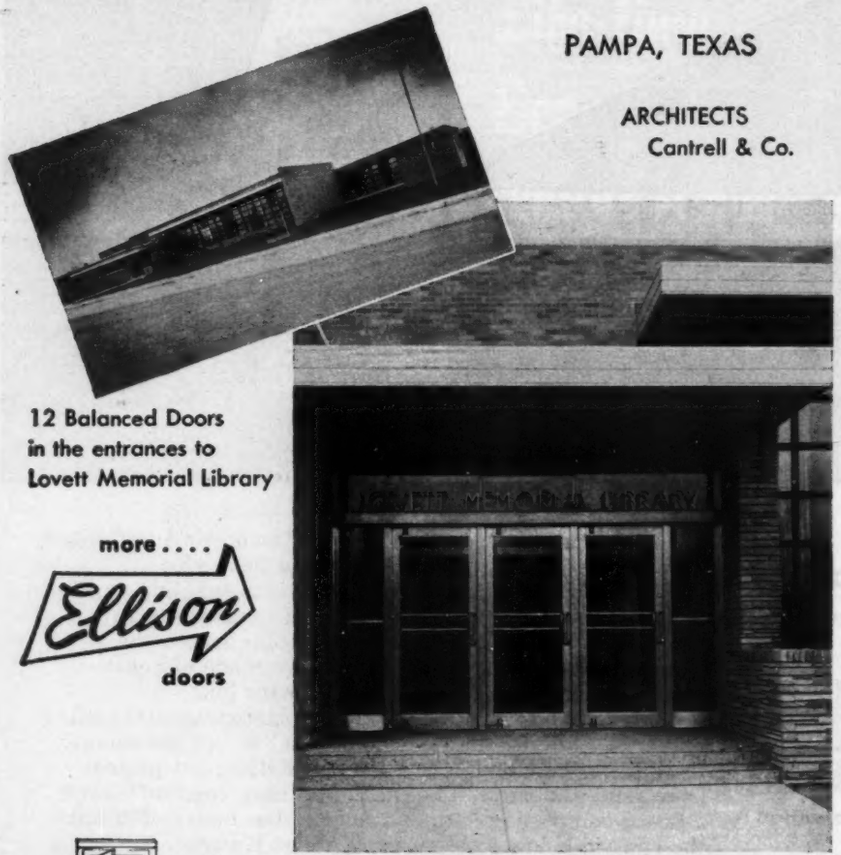
Introduced by Rep. Brent Spence (D-Ky.), in the House, and Sen. John J. Sparkman (D-Ala.), in the Senate, the legislation sought to authorize new appropriations to add $12 million to the fund in fiscal 1956, $12 million in fiscal 1957, and $14 million in fiscal 1958. The appropriations to follow would be in sums estimated to be necessary to maintain not more than a total of $48 million

(*Continued on page 310*)

LOVETT MEMORIAL LIBRARY

PAMPA, TEXAS

ARCHITECTS
Cantrell & Co.



12 Balanced Doors
in the entrances to
Lovett Memorial Library

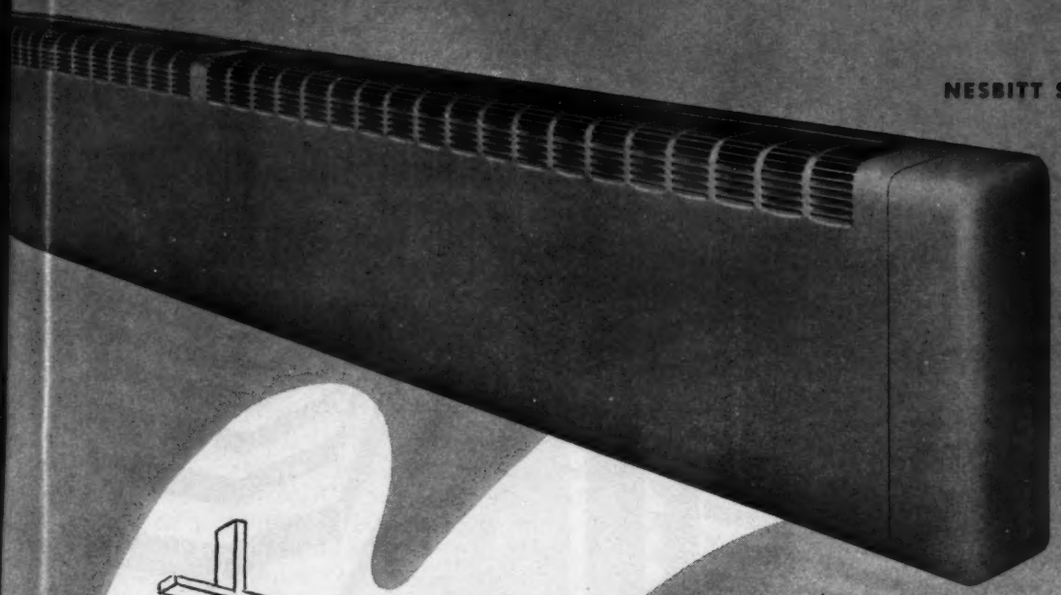
more . . . .
Ellison
doors



The Door that lets
TRAFFIC through QUICKLY

ELLISON BRONZE CO.
Jamestown, New York
representatives in 73 principal cities in the United States and Canada

Ellison
the BALANCED DOOR



NESBITT SILL-LINE RADIATION

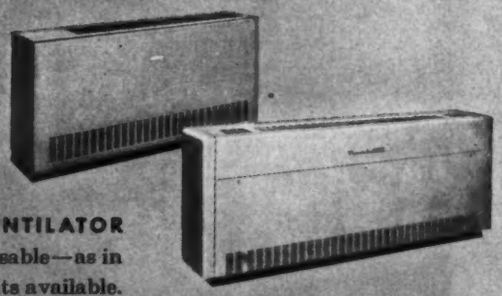
This high-capacity finned radiation in a modern casing is a prime consideration for placement along windows and cold walls in church auditoriums or classrooms for perimeter heating.

Renaissance A.D. 1955

MEETING THE THERMAL COMFORT NEEDS OF RELIGION'S GREATEST BUILDING UPSURGE

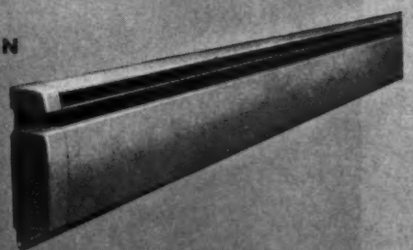
The mid-20th-century will be chronicled as the era of a new religious renaissance. The resurgence in America is marked by a confluence of fresh thinking on every spiritual concern from theology to personal responsibility... to mission... to methods... to ecclesiastical design... to equipment... and to thermal comfort for worshiper and pupil. Timed to the occasion, and fitted by an interest based on conviction, are the heating and ventilating products of John J. Nesbitt, Inc. — all of which are ideally suited to contemporary style and advanced standards in the art.

NESBITT SERIES C UNIT HEATER
Quiet, fan-propelled heating—steam or hot water—for narthex, study, assembly or classrooms. Units are usually recessed.



NESBITT SYNCRETIZER UNIT VENTILATOR
Automatic continuous ventilation where advisable—as in weekday classes. Integrated storage units available.

NESBITT BASEBOARD RADIATION
Practical, beautiful, space-saving convectors for perimeter heating.



Nesbitt
HEATING AND VENTILATING EQUIPMENT
Manufactured by John J. Nesbitt, Incorporated, Philadelphia 36, Pennsylvania

Solution... to air conditioning problems



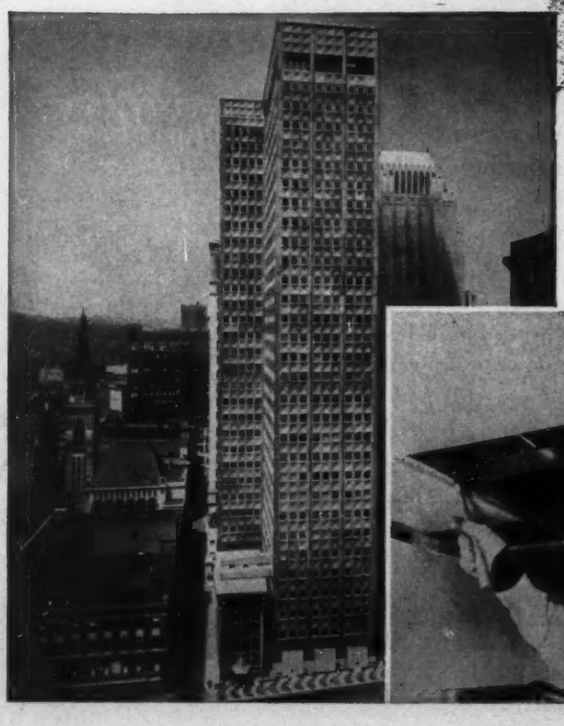


Heat-reducing glass cuts cooling load . . . creates striking architectural effect

Continuous bands of cool, green-blue glass were specified for the Grace-New Haven Community Hospital Memorial Unit to reduce the cooling load. At the same time, the glass helps create clean, modern lines and a cheerful effect certainly desirable in a hospital. The glass floods interiors with soft, tinted light, but cuts out all harsh glare and sharp, direct sunlight. Heat of sun rays is cut by about 50%.

Douglas W. Orr, New Haven, Conn.—Architect

Heating and cooling through aluminum ceiling panels help save 1½ floors' space

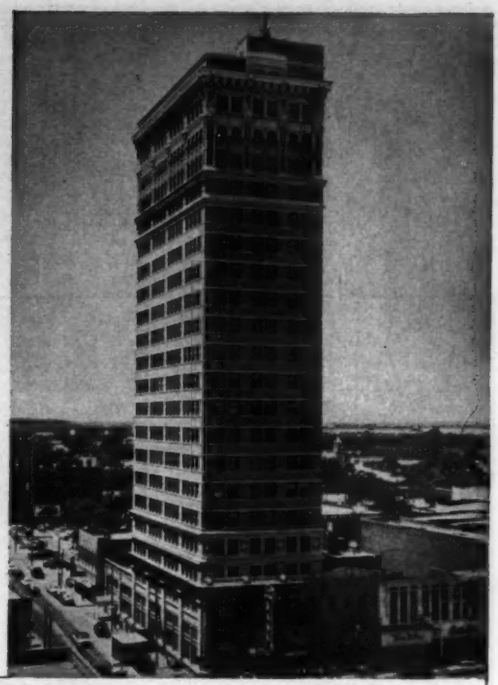


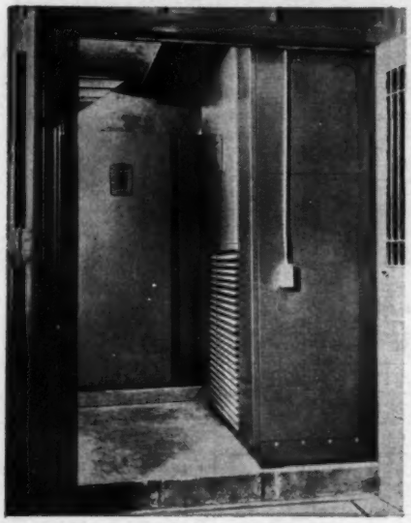


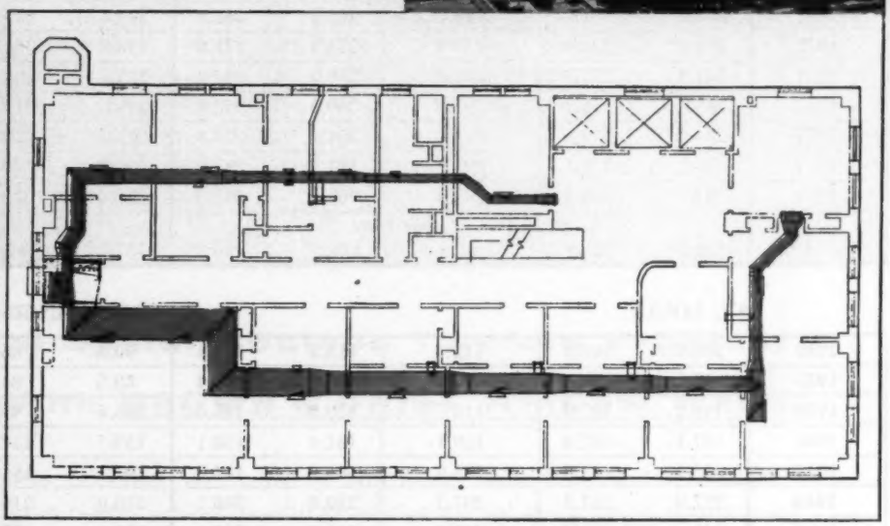
For its beautiful Pittsburgh office building, Alcoa chose a new method of heating and cooling that eliminates radiators and piping. Perforated aluminum ceiling panels are crimped to a grid of aluminum tubing which circulates hot or cold water, depending on whether heat or cooling is desired. To handle the balance of the cooling load and help dehumidification, primary air fans in three locations service local blending units on each floor. Two Worthington 625-ton centrifugal refrigerating units charged with Du Pont "Freon"* fluorinated hydrocarbon refrigerant supply cooling needs.

One way to air condition an existing building with minimum structural changes and no tenant inconvenience

Engineers given the job of air conditioning the 45-year-old Amicable Life Building in Waco, Texas, came up with a novel solution to their chief problem. It was decided that the best and most economical thing to do was to make use of an unused freight elevator shaft and run ducts across each floor (see plan). On each level the shaft was floored over, forming a convenient room for housing the air conditioning equipment. Piping between these newly formed "equipment rooms" and the roof-top cooling towers simply runs up the shaft. Structural changes and tenant upset were held to an absolute minimum.



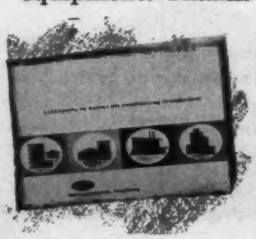




The best plans call for "Freon"* refrigerants for any type and size of air conditioning installation

For both the most complex and the simplest air conditioning installation, the basic requirements the refrigerant must satisfy are the same. Every system needs a pure, dry, uniform refrigerant . . . one that will contribute to the long, trouble-free service life of the equipment. Thanks to Du Pont's near quarter century of experience in manufacturing "Freon" refrigerants, quality standards are unsurpassed.

It's important to specify a safe refrigerant, too. And "Freon" refrigerants are nonflammable, nonexplosive, virtually nontoxic . . . meet building-code requirements everywhere. Protect your clients' interests by specifying Du Pont "Freon" refrigerants in all air conditioning equipment you recommend.



SEND FOR INFORMATIVE FREE BOOKLET filled with practical data and suggestions to help solve a wide variety of basic installation problems. Read authoritative and specific discussions of air conditioning for homes, hotels, offices, restaurants, plants, laboratories, retail stores, shopping centers and many others. Write today for your free copy from E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Division 116, Room 11500, Nemours Bldg., Wilmington 98, Delaware.

KINETIC

FREON

SAFE REFRIGERANTS

*"*Freon" is Du Pont's registered trade-mark for its fluorinated hydrocarbon refrigerants.*

DU PONT

REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

CONSTRUCTION COST INDEXES

Labor and Materials — **U. S. average 1926–1929 = 100**

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assocs., Inc.

NEW YORK

Period	Residential Brick	Residential Frame	Apts., Hotels Office Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Steel
1930	127.0	126.7	124.1	128.0	123.6
1935	93.8	91.3	104.7	108.5	105.5
1939	123.5	122.4	130.7	133.4	130.1
1946	181.8	182.4	177.2	179.0	174.8
1947	219.3	222.0	207.6	207.5	203.8
1948	250.1	251.6	239.4	242.2	235.6
1949	243.7	240.8	242.8	246.4	240.0
1950	256.2	254.5	249.5	251.5	248.0
1951	273.2	271.3	263.7	265.2	262.2
1952	278.2	274.8	271.9	274.9	271.8
1953	281.3	277.2	281.0	286.0	282.0
1954	285.0	278.2	293.0	300.6	295.4
Jan. 1955	286.5	279.4	293.2	301.7	294.8
Feb. 1955	286.5	279.4	293.2	301.7	294.8
Mar. 1955	287.2	280.3	293.3	301.8	295.0
	% increase over 1939				
Mar. 1955	132.5	129.0	124.4	126.2	126.7

ATLANTA

Period	Residential Brick	Residential Frame	Apts., Hotels Office Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Steel
1930	82.1	80.9	84.5	86.1	83.6
1935	72.3	67.9	84.0	87.1	85.1
1939	86.3	83.1	95.1	97.4	94.7
1946	148.1	149.2	136.8	136.4	135.1
1947	180.4	184.0	158.1	157.1	158.0
1948	199.2	202.5	178.8	178.8	178.8
1949	189.3	189.9	180.6	180.8	177.5
1950	194.3	196.2	185.4	183.7	185.0
1951	212.8	214.6	204.2	202.8	205.0
1952	218.8	221.0	212.8	210.1	214.3
1953	223.3	224.6	221.3	221.8	223.0
1954	219.6	219.1	223.5	225.2	225.4
Jan. 1955	221.0	220.8	224.9	227.0	227.6
Feb. 1955	221.0	220.8	224.9	227.0	227.6
Mar. 1955	222.4	222.6	225.2	227.2	228.0
	% increase over 1939				
Mar. 1955	157.7	167.8	136.8	133.2	140.7

ST. LOUIS

1930	108.9	108.3	112.4	115.3	111.3
1935	95.1	90.1	104.1	108.3	105.4
1939	110.2	107.0	118.7	119.8	119.0
1946	167.1	167.4	159.1	161.1	158.1
1947	202.4	203.8	183.9	184.2	184.0
1948	227.9	231.2	207.7	210.0	208.1
1949	221.4	220.7	212.8	215.7	213.6
1950	232.8	230.7	221.9	225.3	222.8
1951	252.0	248.3	238.5	240.9	239.0
1952	259.1	253.2	249.7	255.0	249.6
1953	263.4	256.4	259.0	267.6	259.2
1954	264.6	257.9	263.7	273.3	266.2
Jan. 1955	266.6	260.2	265.4	275.1	268.7
Feb. 1955	266.6	260.2	265.4	275.1	268.7
Mar. 1955	267.6	261.5	265.6	275.2	268.9
	% increase over 1939				
Mar. 1955	142.8	144.3	123.7	129.7	125.9

SAN FRANCISCO

1930	90.8	86.8	100.4	104.9	100.4
1935	89.5	84.5	96.4	103.7	99.7
1939	105.6	99.3	117.4	121.9	116.5
1946	159.7	157.5	157.9	159.3	160.0
1947	193.1	191.6	183.7	186.8	186.9
1948	218.9	216.6	208.3	214.7	211.1
1949	213.0	207.1	214.0	219.8	216.1
1950	227.0	223.1	222.4	224.5	222.6
1951	245.2	240.4	239.6	243.1	243.1
1952	250.2	245.0	245.6	248.7	249.6
1953	255.2	257.2	256.6	261.6	259.7
1954	257.4	249.2	264.1	272.5	267.2
Jan. 1955	260.8	252.8	267.2	276.3	270.8
Feb. 1955	260.8	252.8	267.2	276.3	270.8
Mar. 1955	262.0	254.1	268.3	277.5	272.0
	% increase over 1939				
Mar. 1955	148.1	155.8	128.5	127.6	133.4

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926–29 for that particular type — considered 100.

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

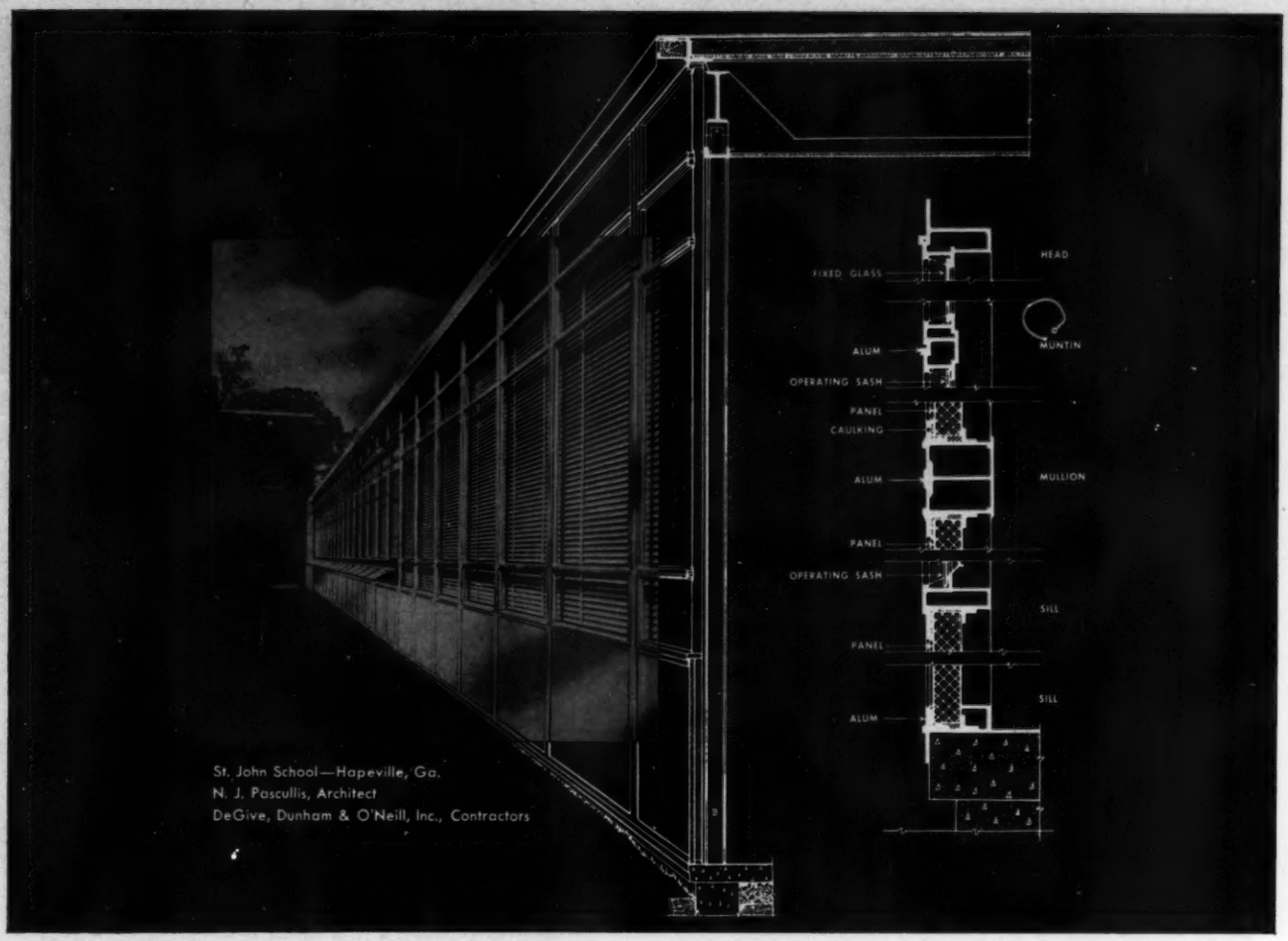
Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926–29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

These index numbers will appear regularly on this page.



Georgia School System Solves Twofold Problem With BROWN & GRIST Window Walls

Specify Brown & Grist Window Walls For:

- ***Fast, Simple Erection***
- ***Savings in Construction & Labor***
- ***High-strength, Light weight***
- ***Beauty and Durability***
- ***Flexibility in Design & Materials***
- ***Low Maintenance***

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Frames made of extruded aluminum. Designed to hold true dimensions and alignment under heaviest stress . . . yet filters are so light and easy to carry that time and labor costs are cut to a minimum on every installation.

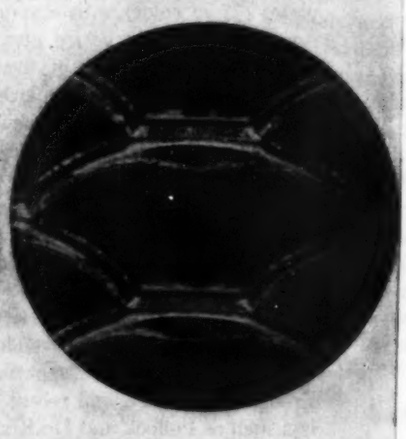
NOTE: The precision stamped grid pacts are so strong they will withstand an 1 and 1/8" stream of water under 65 lbs. pressure (at 300 gallons per minute).

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Blowup of Evans grid showing precision cut openings with thousands of burred talons for clutching and holding dirt.

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MUSEUMS WITHOUT WALLS*

Museums Without Walls — a term Andre Malraux uses to designate history of art books — play a part in bridging the gulf between the layman and the artist (and the arts). All of the criticisms leveled at these books — lack of a sense of scale; the fallacy of color reproductions which lack true color and texture; the deception of the camera's angles — can be easily verified. Yet their value in bringing "the general public" in contact with the arts, and the best of the arts at that, cannot be denied. With the almost certain advent of color television within the price range of many, the broadcasting of art exhibitions into homes may soon become a common occurrence. These books would then serve not only as introductions to art but as guides to the TV tours.

Masters of Modern Art. **Edited by Alfred H. Barr, Jr. The Museum of Modern Art (Distributed by Simon and Schuster, New York) 1954. 240 pp, illus. $15.00.**

WHEN one of the greatest museums in the world sets out to commemorate its twenty-fifth anniversary by, among other things, reproducing in a single volume a representative selection of its most valued treasures, it must be with the full realization that the result can be nothing short of perfect. And the result in this case, a Museum of Modern Art publication entitled *Masters of Modern Art*, can withstand the most critical examination and certainly lives up to the highest expectations.

Masters of Modern Art, which was edited by Alfred H. Barr, Jr., Director of the Museum collections, is a large (12-in. by 14-in.) and handsome book. It is attractively bound and beautifully designed, and the 356 plates (77 in color) with accompanying text are felicitously arranged in varied and very pleasing layouts. The book was printed in the Netherlands, and the reproductions, very particularly the color work, are excellent. All in all, the volume is a sheer visual delight.

Each of the Museum's four major departments is represented in the volume by a separate section, the first and largest of which is devoted to the painting, sculpture, drawing and print collections. The text matter is illuminating and interesting, and Mr. Barr writes about his subject with obvious enthusiasm. The reproductions selected for this section range chronologically over the last 75 years and even include works of younger artists of post-war Europe such as the 27-year-old Frenchman, Buffet, and recent American abstract artists such as Pollock and De Kooning.

William S. Leiberman, Curator of Prints; Edward Steichen, Director of Photography; Richard Griffith, Curator of the Film Library; and Philip C. Johnson, Director of Architecture and Design — all have made important contributions, each in his special field, to the completeness and thoroughness of Masters of Modern Art.

Though the sections devoted to photography and to the film library are, logically, considerably smaller than the first section, the very fact that they are included in this volume indicates the importance accorded these art forms by the Museum. As Edward Steichen points out, the Museum of Modern Art was the first museum to consider the value of photography as a visual art. And if, as stated in Richard Griffith's introduction to the section on the film library, "stills" cannot do justice to motion pictures, they at least can indicate something of the extent of the film collection. And the Museum's film collection is the largest in the world.

Philip Johnson, the Museum's authority on architecture and design, gives some idea of the range of that department's interest in his introduction by stating that "the plans of the Depeartment had from the beginning (although it was called at first simply the 'Department of Architecture') involved the related arts which in scale extend all the way from teaspoons to town planning."

Masters of Modern Art testifies convincingly to the unique position enjoyed by the Museum of Modern Art. Produced with care and infinite good taste, "This picture-book," in the words of Alfred H. Barr, Jr., "is (at the very least) an invitation to see the originals!"

G. Assié

Impressionism. **(2 volumes) By Jean Leymarie. Skira Inc. (381 Fourth Ave., New York) 1955. 120 pp, illus. $4.95.**

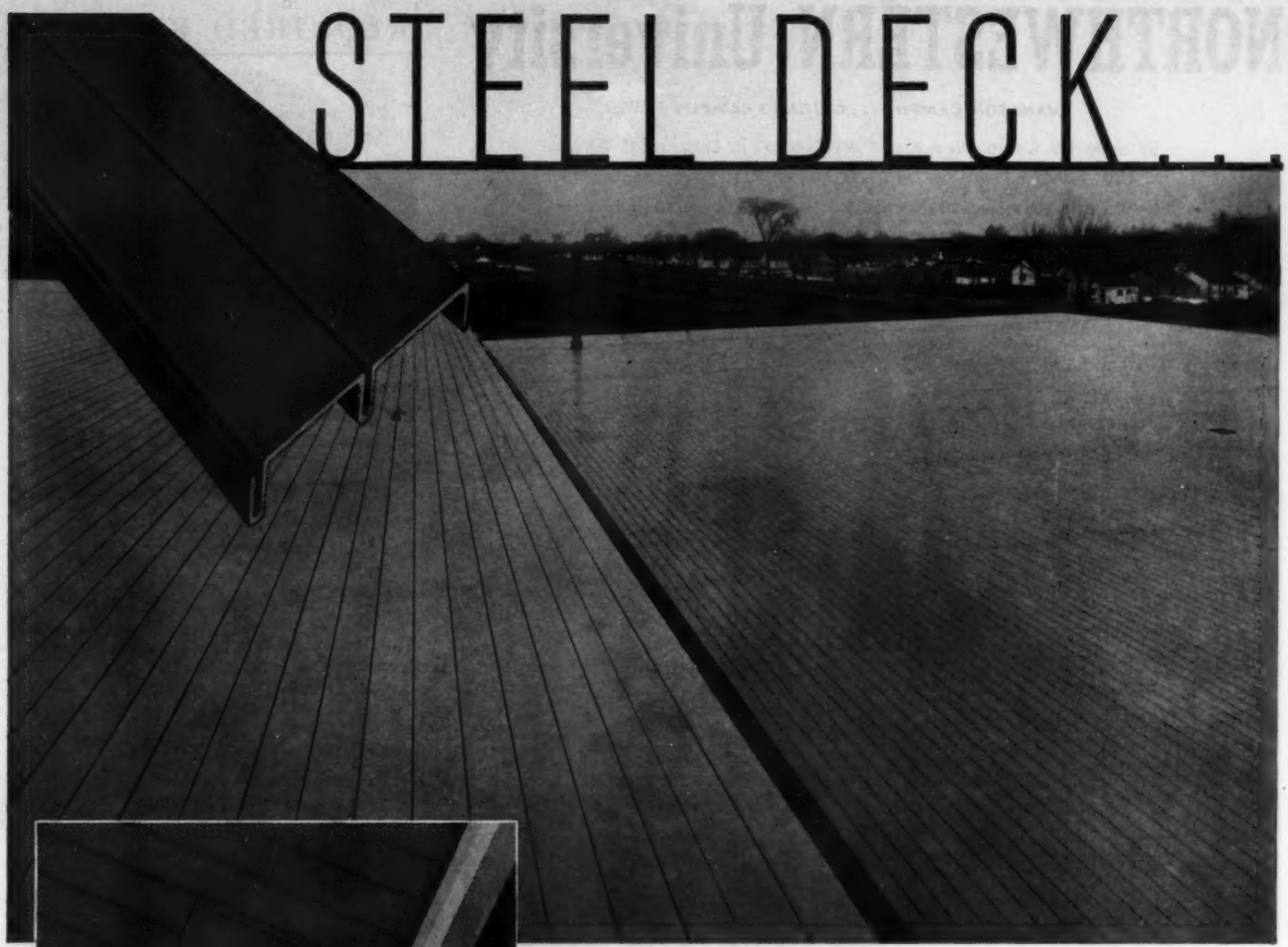
THE COLORFUL-SUN-DAPPLED REVOLUTION of Painting, known as Impressionism, is chronicled in these two volumes.

The revolutionists — Cézanne, Manet, Monet et al. — who fought with undisciplined brush and undiluted color are described as a group. Their influence on one another and the criticism of their contemporaries in literature and politics were as important to their development as were the settings of ateliers, woods, beaches and Japanese print shops.

(*Continued on page 48*)

* See *The Voices of Silence.* By Andre Malraux. Doubleday and Co., Inc. (Garden City, N. Y.) 1953. 661 pp, illus. $25.

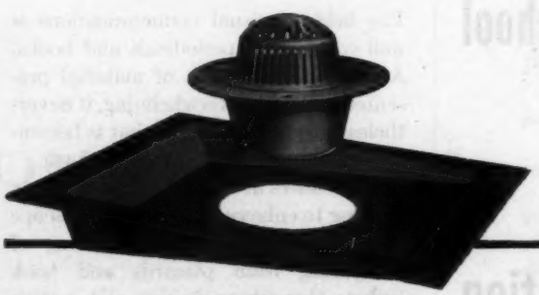
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(Continued from page 46)

This makes interesting, accurate, almost intimate reading about a period as romantic (in a Bohemian way) as the paintings it produced. The text is profusely illustrated.

These two volumes on Impressionism are the latest in the Skira series, *The Taste of Our Time*, which up to this publication has dealt with the individual artists of the contemporary period. The books are small (6½ in. by 7 in.), well printed, inexpensive and very well written. This attractive presentation of "modern" art has induced many to read these books and "to use them as guides through the Museums."

ART THROUGH THE AGES

Fifty Centuries of Art. By H. Francis Henry Taylor. Published for the Metropolitan Museum of Art by Harper & Brothers (New York) 1954. 184 pp, illus. $5.00

Fifty Centuries of Art was written as a general survey on art "intended for that great multitude who claim to know nothing about art but 'know what they like.'" It is available at a price nearly everyone can afford.

Mr. Taylor has written an interesting summary of Eastern and Western art from early Egyptian to modern times to accompany the admittedly badly reproduced but well-selected works of art. The text is basic enough for a novice yet serves as a good refresher for those who are familiar with the subject.

GRAPHIC ART

Graphis Annual 54/55. Edited by Walter Herdeg and Charles Bosner. Graphis Press. U. S. A. Distributors: Hastings House (New York) (Zurich) 1954. 208 pp, illus.

International Poster Annual. Edited by Arthur Niggle. Hastings House (New York) 1954. 171 pp, illus. $10.95

The Penrose Annual. Edited by R. B. Fishenden. Visual Design Publications: Hastings House (New York) 1955. 129 pp, illus. $8.50

The field of visual communications is well covered by periodicals and books. Although the amount of material presented is usually overwhelming, it nevertheless displays the vigor that is becoming almost universal in this art-form.

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(Continued on page 364)



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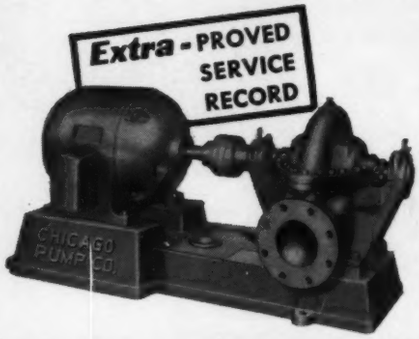
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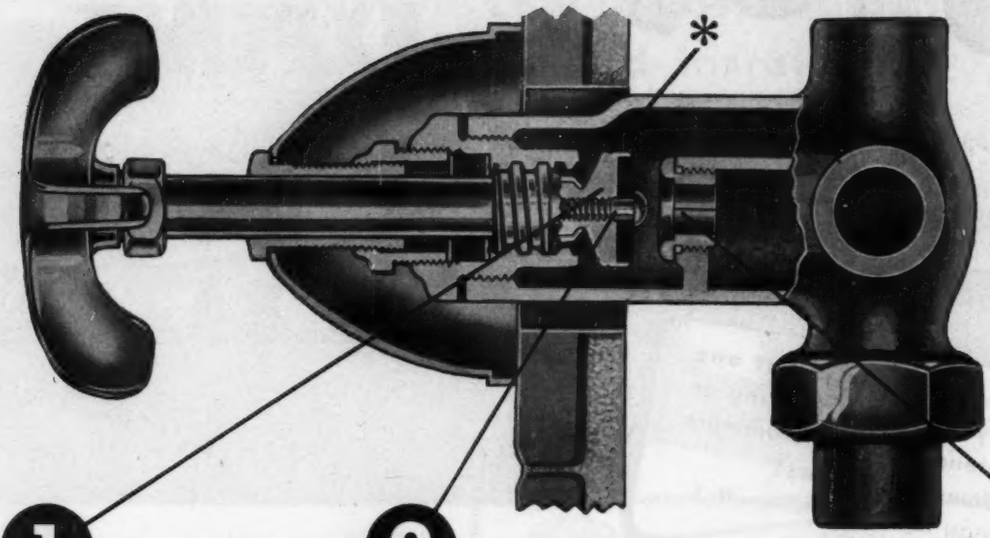
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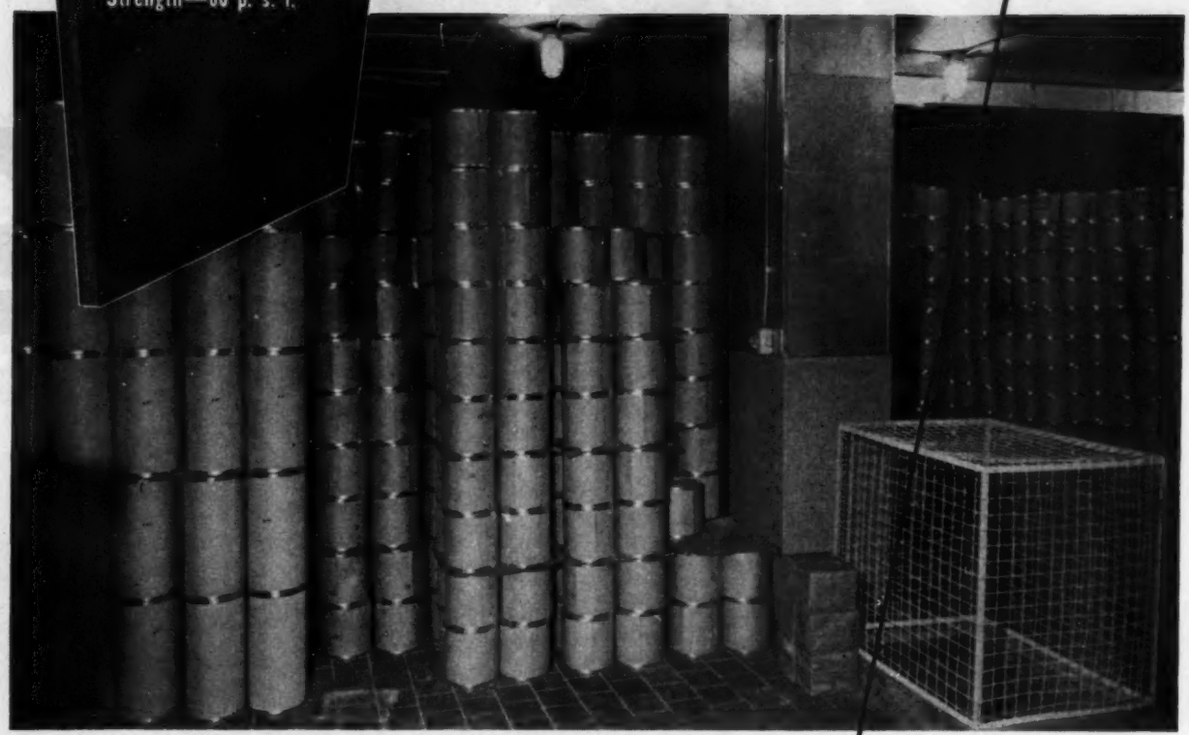
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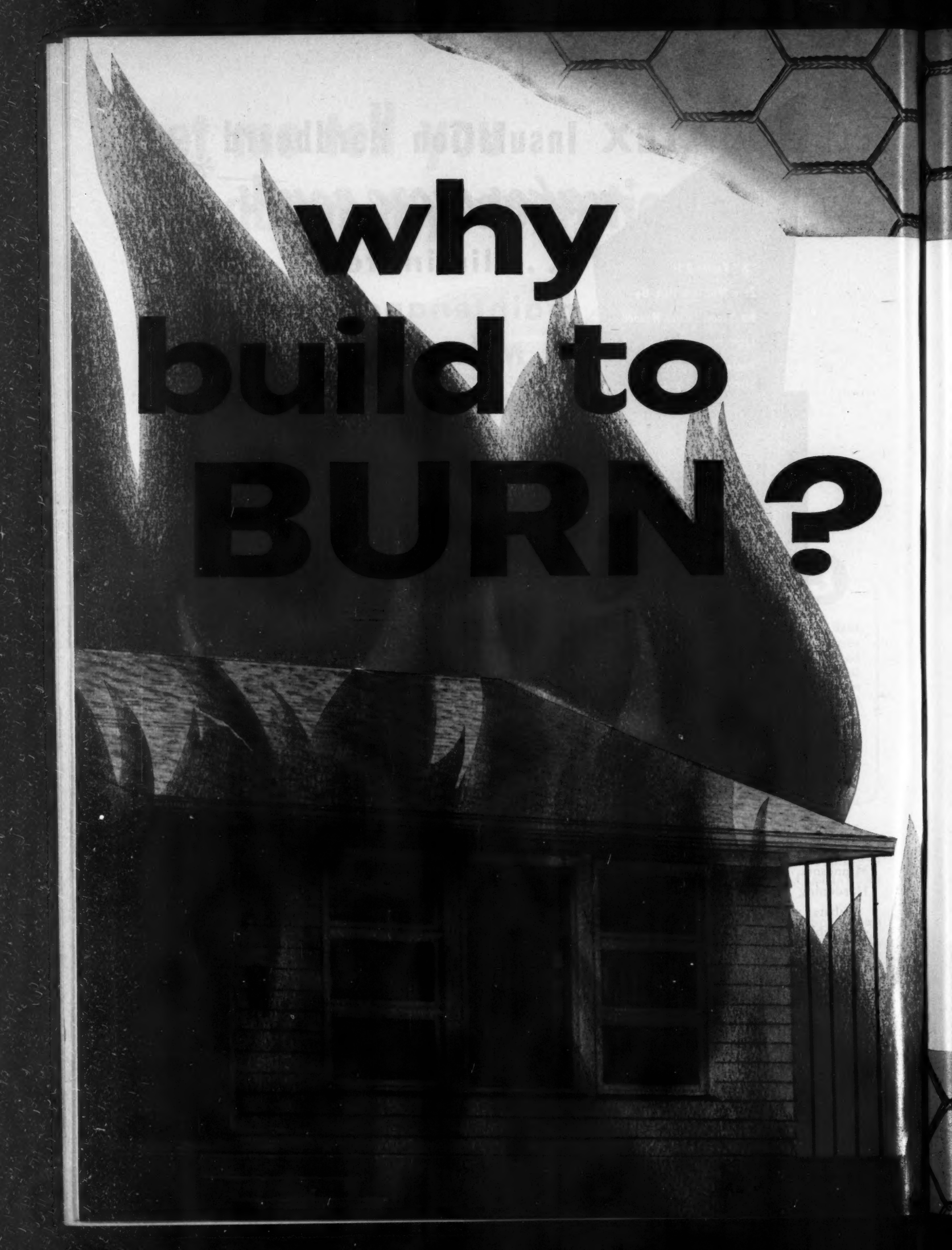
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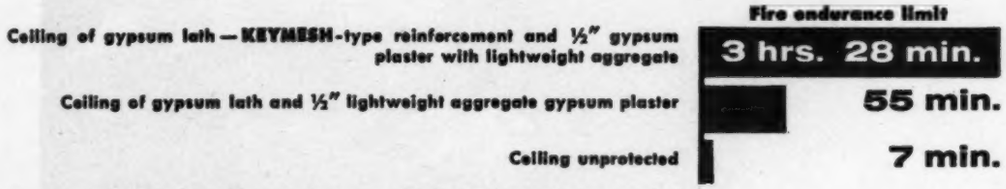
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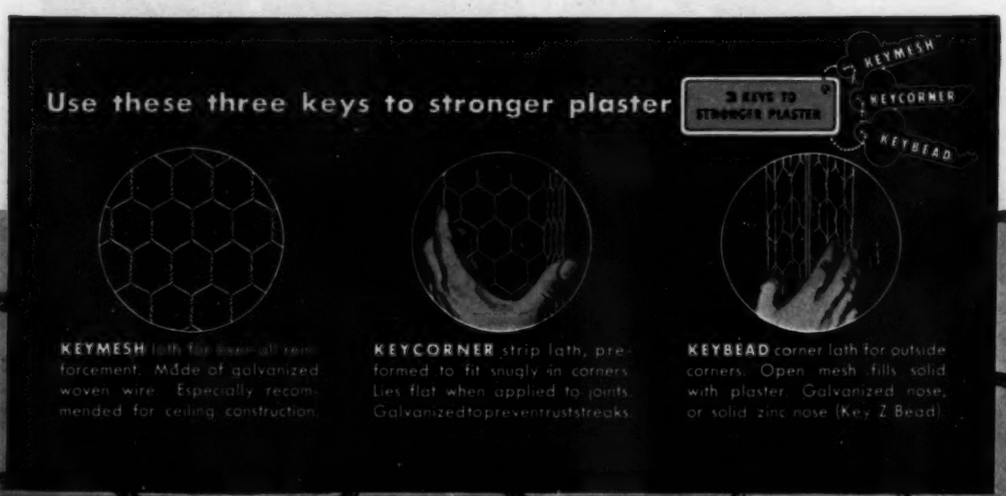


**See Building Materials and Structures Report 141, National Bureau of Standards: "Fire Endurance of Open-Web Steel-Joist Floors with Concrete Slabs and Gypsum Ceilings"*

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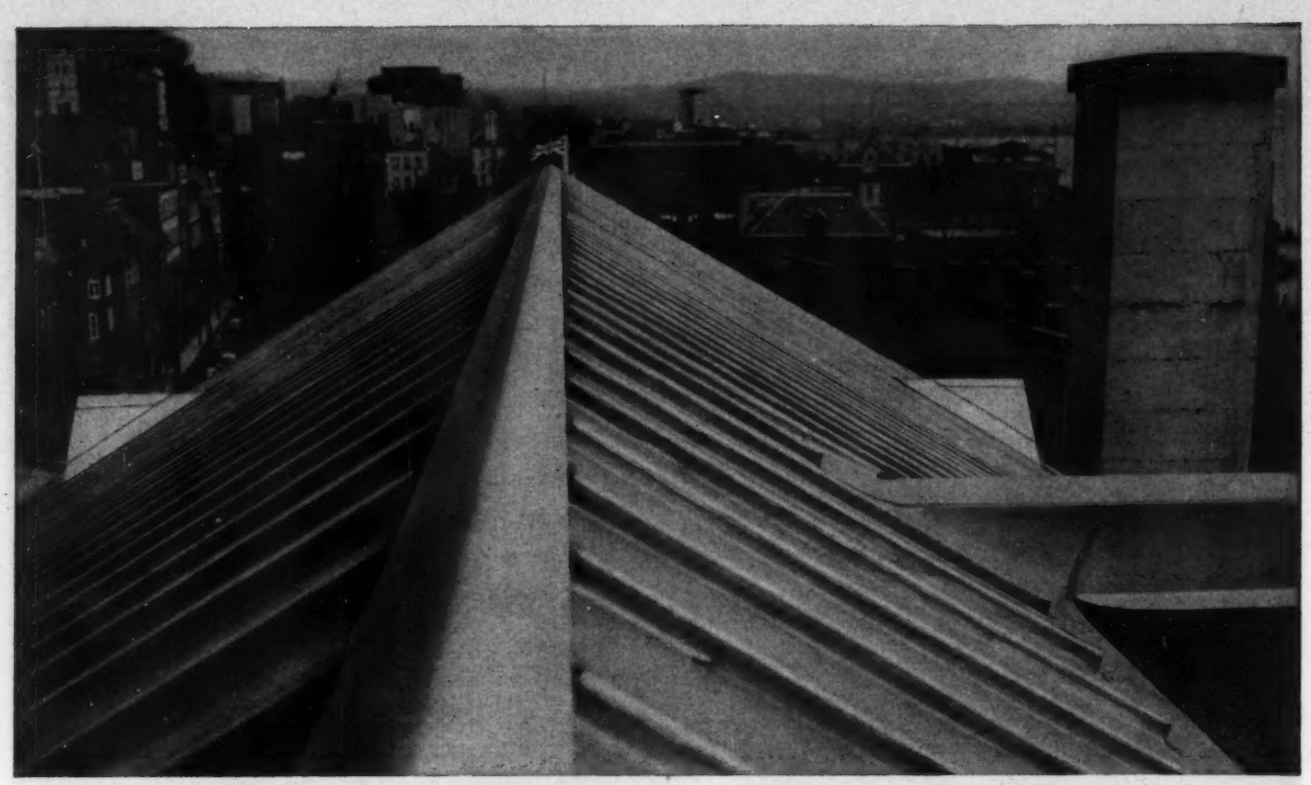
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And Monel offers "life-of-the-building" protection to *any* structure. It doesn't matter where the building is. Nor how severe the local conditions. Service records of Monel roofs—even in seaport cities like Quebec—prove that Monel stands up where other materials often don't.

Here's why this is true...

Monel cannot rust. It is stronger and tougher than any other non-ferrous roofing. It resists corrosion caused by chemicals in city air, or by the smoke and fumes that hang over so many industrial towns.

Its excellent corrosion resistance is backed up by the high mechanical properties you need in a roofing metal. ***Monel resists stresses, strains and wear. It doesn't buckle or crack at extreme temperatures. It takes years of flexing with no signs of fatigue.***

Specify Monel for the public buildings you design. And for factories, laboratories, office buildings, schools, and institutions. Monel stands for long-lasting, trouble-free roofing. It's the "life-of-the-building" metal for *all* your structures!

Write us—now—for a copy of the illustrated booklet, "One Metal Roof." It contains full information on the various types of roofing problems, and on the metal properties needed to solve them. Also includes data on Monel Roofing Sheet, service records and many building photographs.

The INTERNATIONAL NICKEL COMPANY, Inc.
67 Wall Street New York 5, N. Y



The full picture. Here is an over-all view of the huge Marine Storage Building. For the batten seam roof — and for all flashings — .018" Monel was used. The gutters took .031" Monel — still a comparatively light gauge considering the rigidity required in 60-inch gutters. The sheet metal contractor, Adelard Laberge, Ltd., used Monel cleats and Monel "Anchorfast" nails throughout.

INCO TRADE MARK **Nickel Alloys**

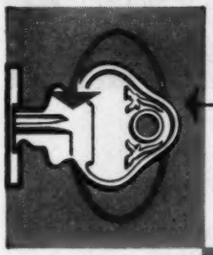
Monel Roofing ..."for the life of the building"

Last Word in elementary school wardrobes



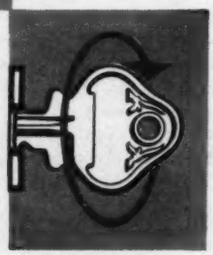
MEDART

New GRADE-ROBES



UNLOCK and handle goes up to unlock all doors automatically

LOCK with handle pushed down, and all doors lock automatically



- **Automatic Group Locking Control** . . . When master control is unlocked, individual doors can be opened and closed by the pupils.
- **Positive Pre-Latching** . . . When master control is in locked position, individual doors, whether gently closed or slammed, will lock automatically because of positive **3-point** pre-latching
- **Better Supervision By Teacher** . . . Orderliness, neatness, quiet, safety, and fool-proof protection is insured.
- **Ample Room In Less Space** . . . Flush installation requires only 16″ deep unfinished recess. Cubic content of each classroom is reduced, thus contributing huge savings in building costs. Expense of finished walls, occupied by Grade-Robes* is eliminated.
- **Standard Interior Arrangements** . . . 3 different interiors for 4 to 6 pupils are available, plus teachers' wardrobe and bookcase units. All Grade-Robes are 22″ wide; 15″ deep, 60″ high without legs.†
- **Heavy Duty Construction** . . . Rugged, precision-formed steel fabrication. Baked enamel finish in Desert Sand, Olive Green, and Gray.

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†Grade-Robes for free-standing or recessed installation are available for pre-built or steel bases, or with legs.

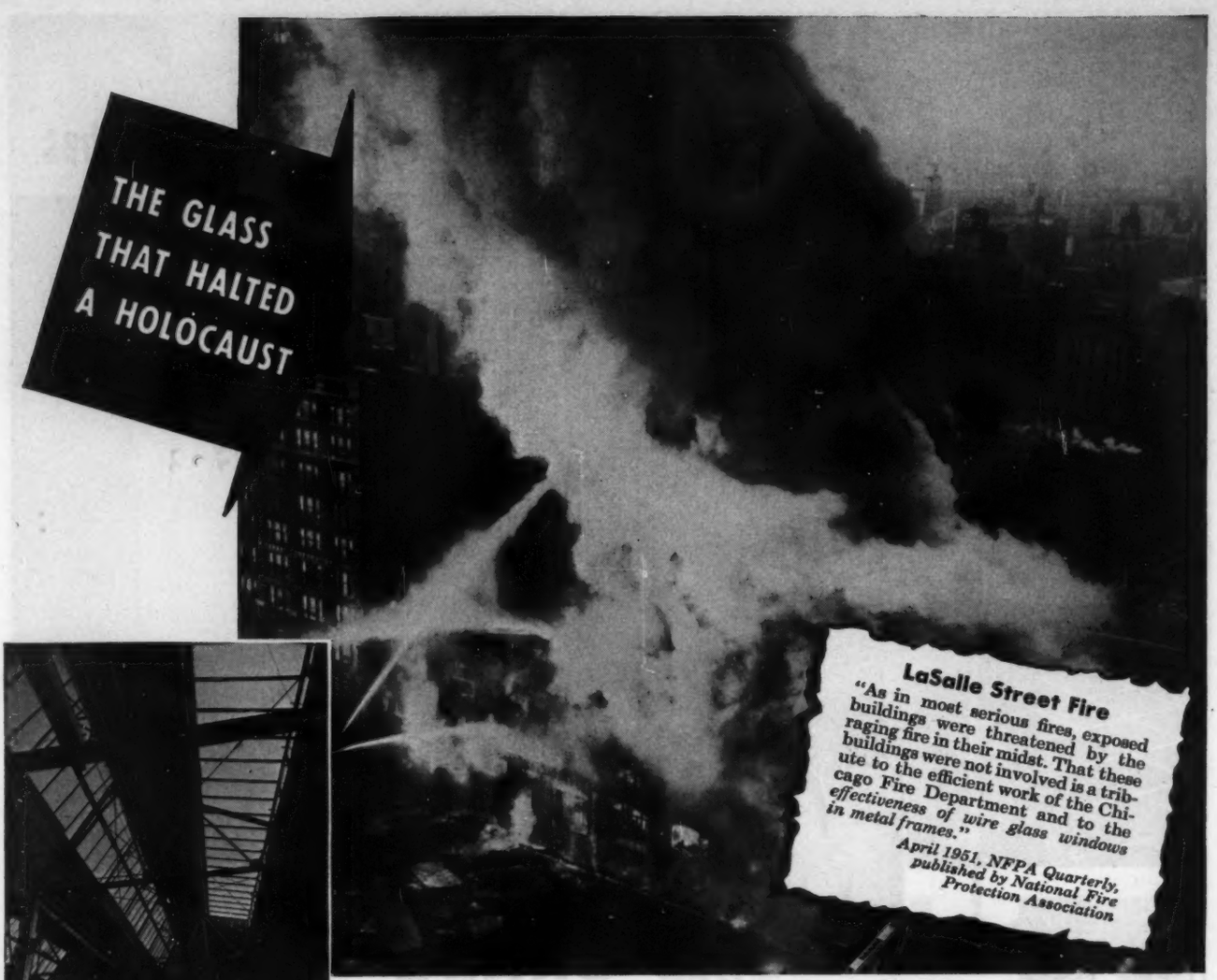
SEE OUR CATALOG IN SWEET'S

*Patents pending.

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Skylights of Coolite Wire Glass combine controlled daylighting, heat absorption and protection.



The distinctive pattern of Polished Misco Wire Glass, in metal frames, is ideal for window openings.



Polished Misco brings beauty and clean, functional, modern design to a proven safety standard.

Mississippi Wire Glass Affords Approved Fire Protection From Within or Without Your Plant

The roaring flames that reduced this structure to a smouldering ruin never spread to endangered nearby buildings. The holocaust was halted in its tracks with the help of wire glass windows in metal frames. Although heat cracked the lights, the woven wire mesh held the glass in the sash . . . prevented the blaze or errant embers from igniting new fires. The ability of Mississippi Wire Glass (Approved Fire Retardant No. 32) to remain in an opening after cracking or accidental breakage, makes it especially suitable for skylights, lot line windows, vertical shafts, partitions, doors or at any point where fire protection plus good daylighting is required.

Give your buildings the finest protection. Mississippi Wire Glass will not only prevent damage from exterior causes, it also tends to bottle up small, internal fires, keep them from spreading into costly conflagrations. Specify Mississippi wire glass, the original wire glass upon which the Underwriter's Standard was based, the standard today by which all others are judged.

Available in hexagonal or Misco wire mesh in types for clear vision or diffusion wherever quality glass is sold.



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NEW YORK • CHICAGO FULLERTON, CALIFORNIA

WORLD'S LARGEST MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS

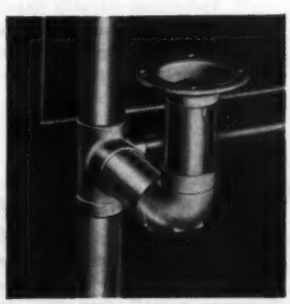


You wouldn't specify old fashioned fixtures . . .

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Use *Streamline*® copper tube and fittings for a modern drainage system

By specifying Streamline copper tube and fittings for drainage plumbing, you give the home-owner an up-to-date, free-flowing, corrosion resistant drainage system that will last for the life of the building. There are no caulked joints to leak, no rust damage to worry about, no client complaints to answer. The compact 3″ stack fits into a standard 2″ by 4″ partition . . . increasing usable house space and eliminating the need for furring. The smooth attractive appearance of Streamline copper tube and fittings adds visual sales appeal to every modern installation. Your client depends on you for the trouble-free future of his home . . . you can depend on Streamline for a lifetime of trouble-free service.

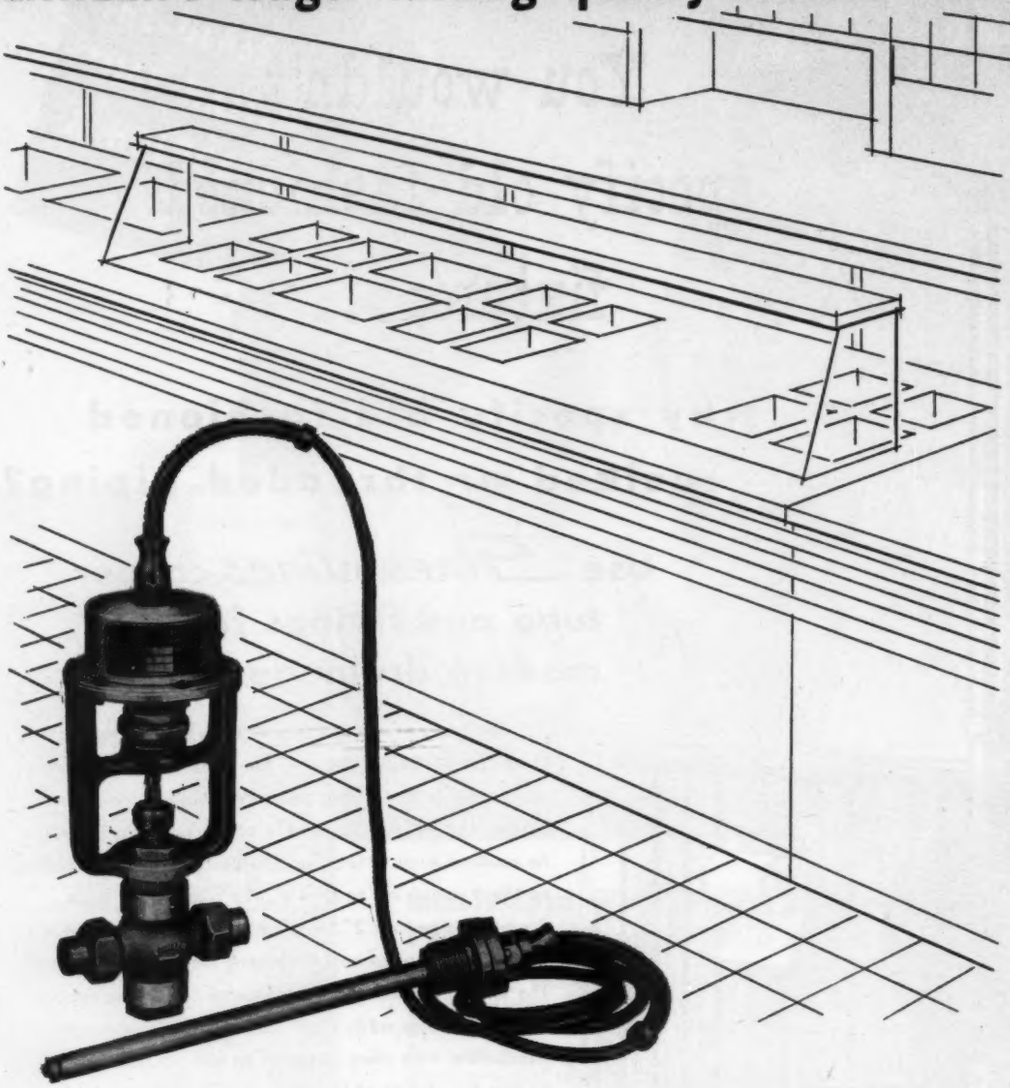


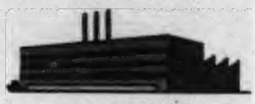
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LAWLER'S longer lasting quality insures YOUR reputation!

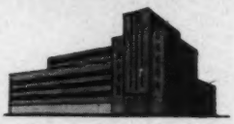




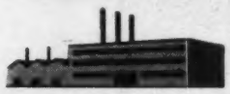
IN FACTORIES



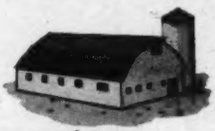
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COMMERCIAL BUILDINGS



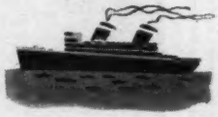
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Type "S" Thermostatic Temperature Regulator for automatically regulating the flow of liquid or steam through a valve, such as in the steam tables illustrated above.

Lawler's "Performance-Tested" design combines pioneering experience with engineering leadership. The use of specially chosen metals assure YOUR customers years of positive, accurate temperature control with lowest maintenance cost . . . the best insurance YOUR REPUTATION can have.



The Lawler Line **of Thermostatic Controls**

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CONSOLIDATED FOODS CORPORATION'S NEW PLANT is equipped with 85 Crawford Industrial Doors—31 equipped with Electric Operators

Consolidated Foods' new plant, set in a 33 acre tract at River Grove, Ill., just west of Chicago, is a model of modern, functional design and operating efficiency. The project, which cost nearly $3,000,000, consists of two, one-story buildings. The one shown above, where automatic, mechanically-operated conveyors assemble orders and handle merchandise, houses processing and warehousing facilities of over 500,000 square feet; a department of 72,000 square feet for coffee roasting and packing and for handling teas, extracts and spices; a two-floor office of 24,000 square feet; an air-conditioned cafeteria for 650 employees; and an enclosed space for 20 railroad cars and 52 trucks.

The second unit has 44,000 square feet and is used for handling fresh fruits and vegetables and frozen food. An unique system of conveyors and automatic equipment moves merchandise from refrigerator cars and trucks to coolers and outgoing trucks.

Contributing importantly to the quick, easy, thrifty movement of merchandise are 85 exterior and interior Crawford Marvel-Lift Industrial Doors, 31 of which are electrically operated by remote control. Significantly, this entire installation, which is so vital to the smooth operation of the entire plant, cost only about 1% of the total plant cost. If you have a door problem, we'll welcome your inquiry and it will get quick, intelligent attention. Crawford Door Company, 169-20263 Hoover Road, Detroit 5, Michigan. Plants in 10 cities; Warehouses in 95 cities; Sales and Service everywhere. In Canada, F. Fentiman & Sons Ltd., Ottawa, Ontario.

Consolidated Foods Corporation,
River Grove, Ill.

Architects and Engineers: **A. Epstein & Sons, Chicago**

Contractors: **Poirot Construction Co., Chicago**

Crawford Doors and operators sold and installed by

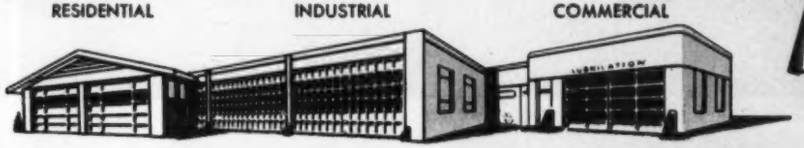
Crawford Door Sales Co. of Chicago



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Crawford MARVEL-LIFT Doors

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COSMOPOLITAN, Sizes 4½', 5' and 5½'

KOHLER BATHS

of Enameled Iron

Kohler baths have the modern beauty of design that attracts, and the practical features of comfort, convenience and safety that satisfy. The Kohler mark on fixtures and fittings is a trusted guide to first quality.

The sparkling, glass-like Kohler enamel is easy to keep clean, and is fused to a base of non-flexing iron, cast for rugged strength and rigidity.

TILING-IN RIM
An integral flange that simplifies leak-proof installation with dry-wall or plaster construction.

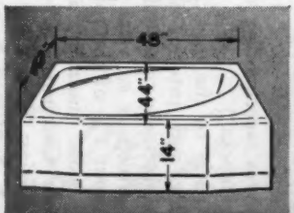
MACHINE-GROUND
Uniform length and width dimensions for fast, accurate tub setting and wall-finishing.

QUALITY FITTINGS
Designed expressly for the fixtures, engineered to exacting tolerances.

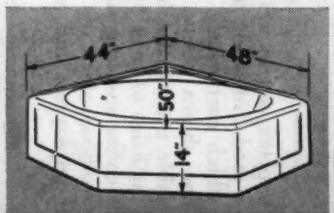
COMPLETE LINE
Meets requirements of homes, hotels, apartments, motor courts. Fixtures in white and six non-fading colors.

FULL RANGE OF SIZES
Solves any problem of space or arrangement.

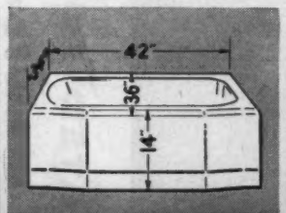
MAYFLOWER, recess. Solves many space problems. Integral seats.



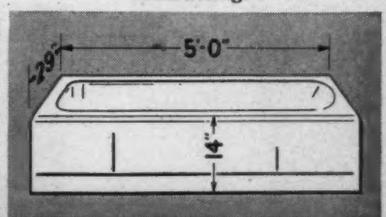
MAYFLOWER, corner. Further opportunities for flexible space-planning.



STANDISH, shower-size. For homes, apartments, motor courts, etc.



MINOCQUA. First quality bath for lower-cost homes, economical remodeling.

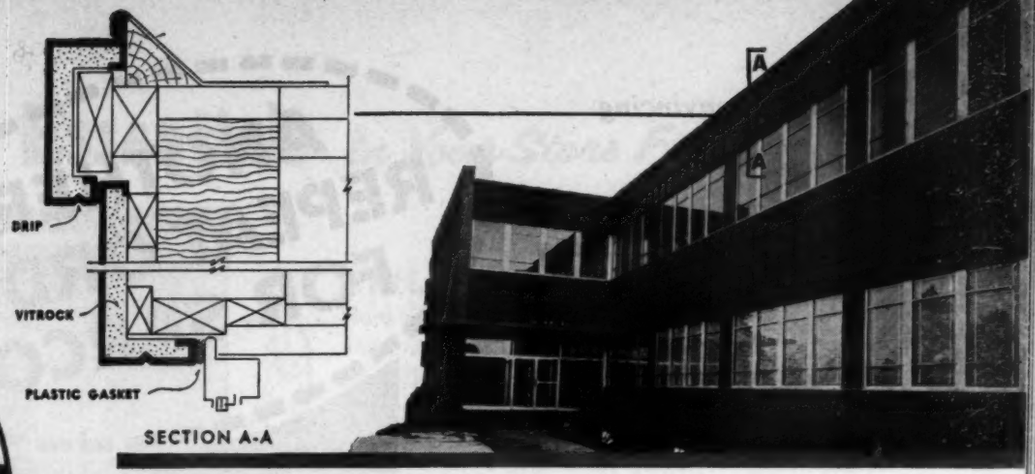


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KOHLER OF KOHLER

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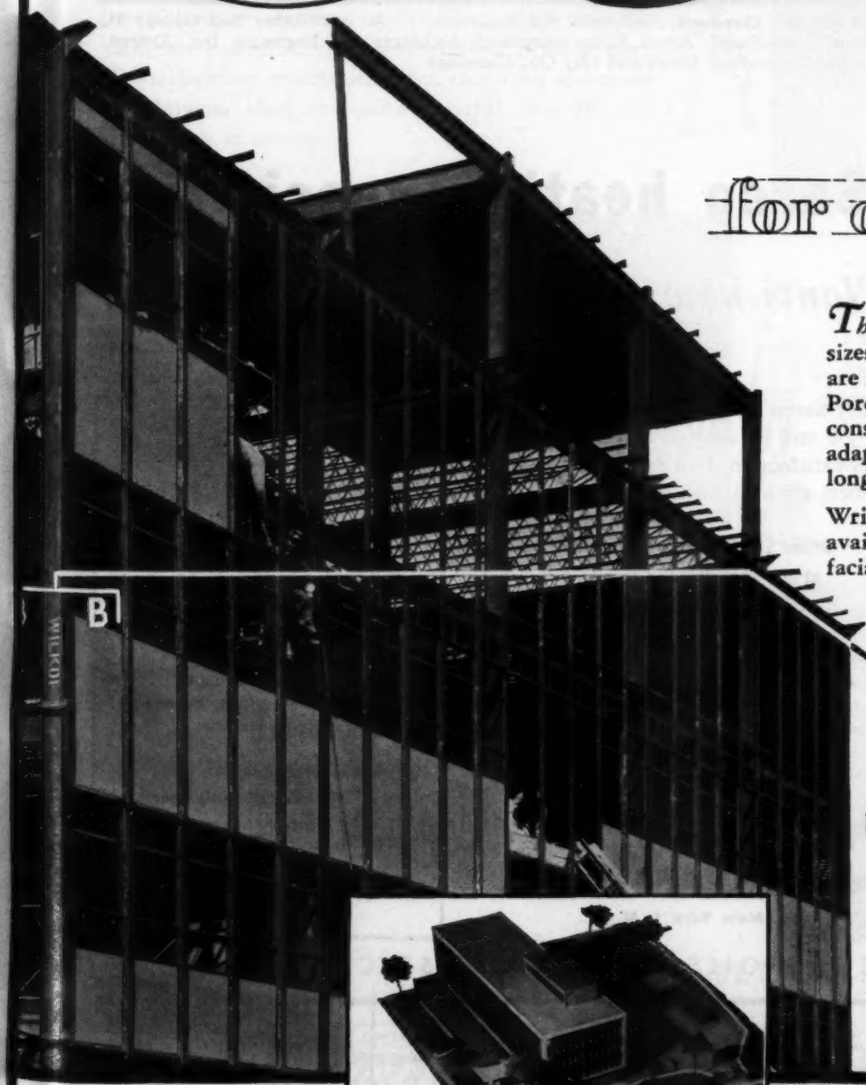
At right, Radio-TV Station WBT, Charlotte, North Carolina; Davidson Architectural Porcelain with Vitrock backing used on building facade, coping and canopy. J. N. Pease & Co., Engineers and Architects, Charlotte, North Carolina.



DAVIDSON
ARCHITECTURAL
PORCELAIN

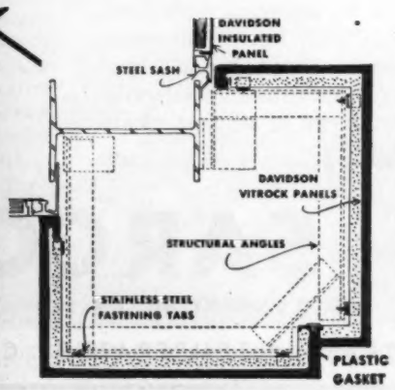
Selected

for appeal
for economy
for durability



These factors—complete freedom of choice in panel shapes, sizes and colors, plus construction speed and economy—are resulting in specification of Davidson Architectural Porcelain for the finest buildings. Whether used for new construction or modernization, this modern building material adapts to any structural system and can be counted on for long-lasting, "new" appearance without maintenance.

Write for Architects Fact File, showing types of panels available and suggested curtain-wall, window-wall and facia applications.



At left, Bel-Park Medical Building, Youngstown, Ohio, now under construction. Davidson Panels are assembled to window frames, then hoisted into place. Approximate time to install complete unit into building structure: two minutes. Architect, P. Arthur D'Orazio, Youngstown, Ohio. Contractor, Emanuel Katzman & Company, Youngstown, Ohio.

Scale model showing Bel-Park Medical Building as it will appear on completion.

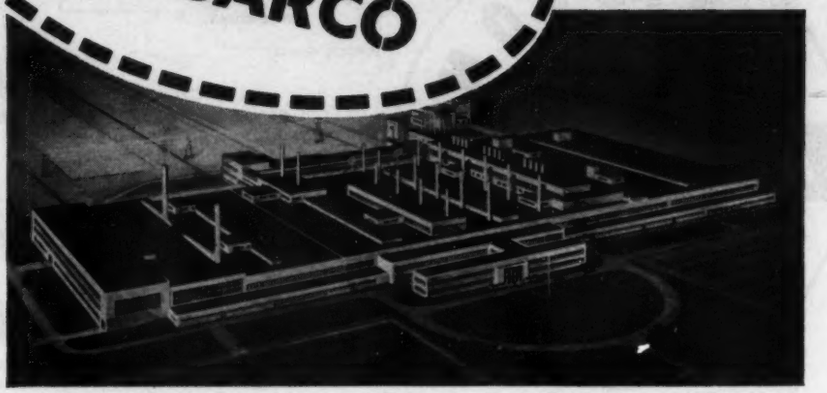
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now another Ford Plant

equipped with Sarco heating specialties



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8 Ford Plants now rely on Sarco dependability

To get repeat business it takes more than just promises of product performance . . . *it takes proof.*

For the past fifteen years Sarco product performance has been proved seven times over to the Ford Motor Company. Now the new Cleveland Foundry is the eighth Ford plant to be equipped with Sarco Heating Specialties. Over 7,000 steam traps, strainers, radiator valves and traps and other Sarco Specialties give dependable, efficient service in all eight plants.

Doesn't this repeat business speak for itself?

Specify Sarco Heating Specialties on your next job and be assured of complete customer satisfaction. Full details of all Sarco products are available on request.

Other SARCO-EQUIPPED plants of the Ford Motor Company

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CLEVELAND, OHIO, *Engine Plant*
WAYNE, MICH., *Lincoln-Mercury Assembly Plant*
BUFFALO, N. Y., *Ford Stamping Plant*
DALLAS, TEXAS, *Ford Assembly Plant*
KANSAS CITY, MISSOURI, *Ford Aircraft Plant*
METUCHEN, NEW JERSEY, *Lincoln-Mercury Assembly Plant.*

Here's why so many architects, engineers and heating contractors specify and install Sarco

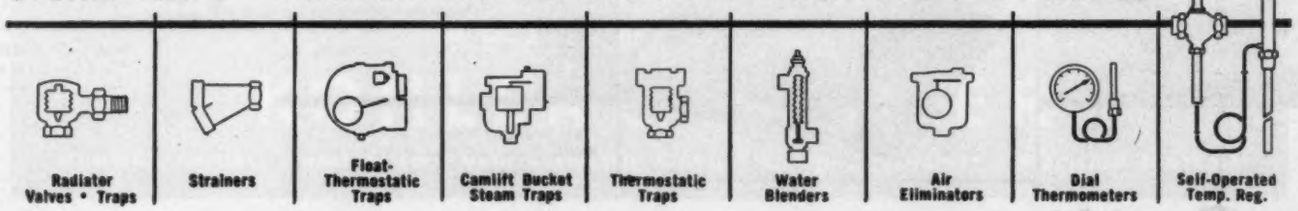
—job after job.

- **Proven dependability**
- **Trouble-free service**
- **Complete line from one reliable manufacturer**
- **Nationally known and preferred**

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SARCO COMPANY, INC., Empire State Building, New York 1, N. Y.

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Radiator Valves • Traps | Strainers | Float-Thermostatic Traps | Camlift Bucket Steam Traps | Thermostatic Traps | Water Blenders | Air Eliminators | Dial Thermometers | Self-Operated Temp. Reg.

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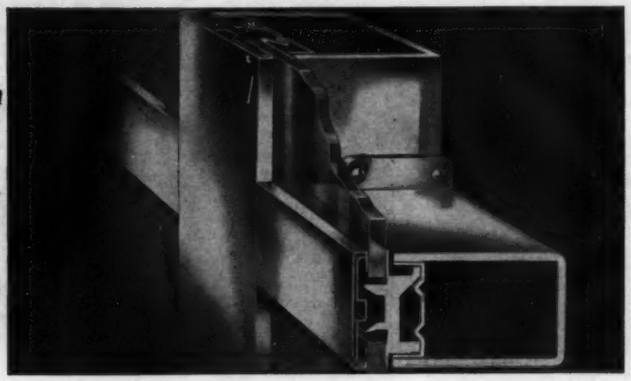


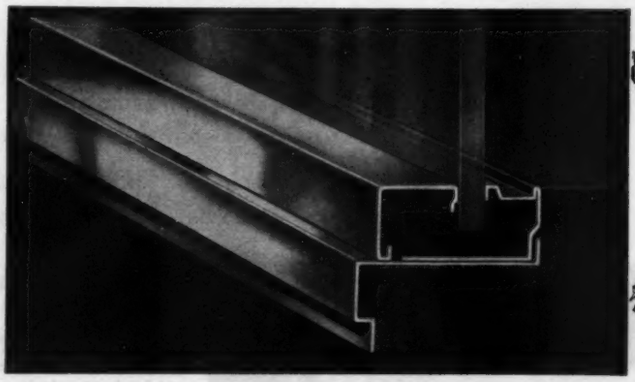


STYLE - Architectural individuality will set the store apart from its competitors. Window settings and entrances of distinctive design help to provide immediate store identification. You can accomplish this economically with complete Brasco Construction. The variety of special effects possible with our versatile stock assemblies eliminates any necessity for special fabrication.

STRENGTH-Today's larger glass areas require sound construction, designed, engineered and fabricated to provide ample security under all conditions of weather and traffic. This calls for Brasco's heavy duty, steel-reinforced division bars. Glass holding mechanisms for sash rails are made of stainless steel to assure greater strength and resistance to corrosion.









SAFETY- Brasco's deep, firm, time-tested grip on the glass is your best protection against breakage. Even the largest lights are held securely, without strain, to absorb shock, vibration and wind pressure. Special lead-covered aluminum setting blocks cushion the glass safely and prevent shifting. They will not corrode or deteriorate.

SALES - *Sell*evision* design is an important factor in attracting both new and old customers. Brasco's low sash exposes more glass to enlarge the view of the inviting interior from the street. With smart lines and pleasing profiles, Brasco Store Fronts and Entrances add eye-catching appeal that brings buyers IN.

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STORE FRONTS
Brasco
ENTRANCES

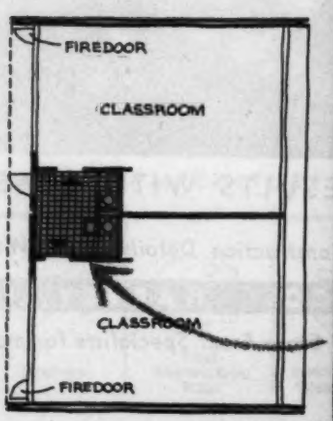
MANUFACTURING CO. HARVEY, ILLINOIS

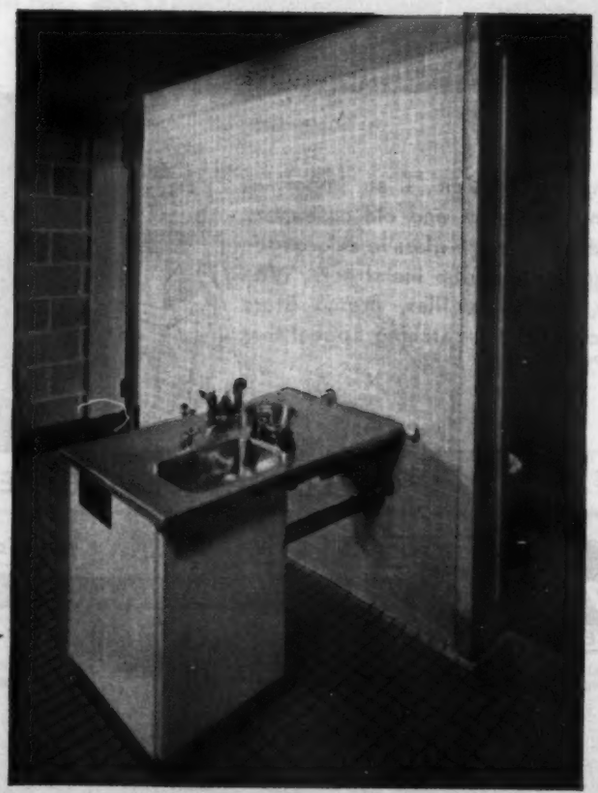
Metal Store Front Specialists for more than 40 Years

more color,



Library Facade, High School, New Bern, N. C.; Architects: Burett H. Stephens and Robert H. Stephens. Special Design in Suntile Ceramics—231 Pearl Grey; 204 White; 240 Red; 271 Turquoise.





Each two-classroom unit in this "cluster-plan" school has a practical vestibule-washroom-toilet area. Suntile Ceramics in contrasting colors help appearance and maintenance. Wall: 281 yellow. Floors: 240 Red, 271 Green. Hallow Tree Ridge School, Darien, Conn. Architects: Ketchum, Gina and Sharp.

ceramic *Suntile* means longer life, less up-keep for schools





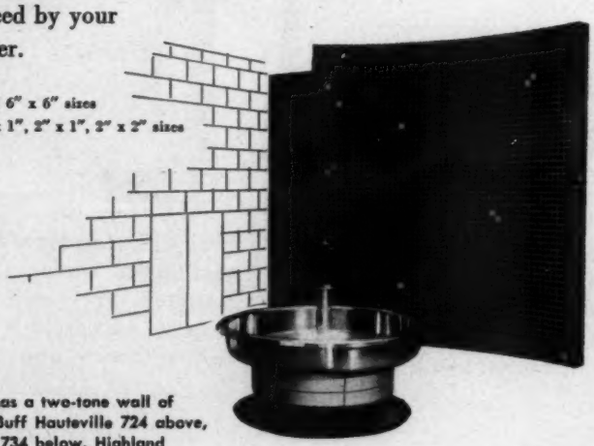
Pictured here are some of the many ways in which school architects are using beautiful ceramic Suntile as a triple-duty finish—colorful, economical, easily maintained.

For interiors, glazed Suntile* offers a permanent, impervious surface and a wide range of colors especially developed for school use by color authority Faber Birren.

Unglazed Suntile Satinized Ceramics, made in smaller sizes**, permit interesting effects of pattern and texture—in walls or floors, indoors or out.

Whatever type Suntile you use, you can depend on proper installation—it's guaranteed by your Suntile dealer.

*4¼" x 4¼" and 6" x 6" sizes
**½" x 1½", 1" x 1", 2" x 1", 2" x 2" sizes



Sunny corridor has a two-tone wall of glazed Suntile—Buff Hauteville 724 above, Grey Hauteville 734 below. Highland Elementary School, Westfield, Mass. Architect: James A. Britton.



Wainscot in Suntile Ceramics combines #121 Larkspur Range, 231 Pearl Grey and 25 Dresden Blue to produce a lasting, gay pattern. Fox Point Elementary School Corridor, Providence, R. I. Architects: Cull and Robinson.

Curved Wall of 230 Black Suntile Ceramics with accents of 243 Pink and 281 Yellow serves both as a practical splash-back and a center of decorative interest: Meadow Lane School, Meadow Lane, N. Y. Architects: Ketchum, Gina and Sharp.

• At your service—expert help on special *Designs*

For new design ideas in tile, or assistance with layout problems, just call on our staff of trained ceramic artists, headed by Harry J. Macke—at no obligation to you, of course.

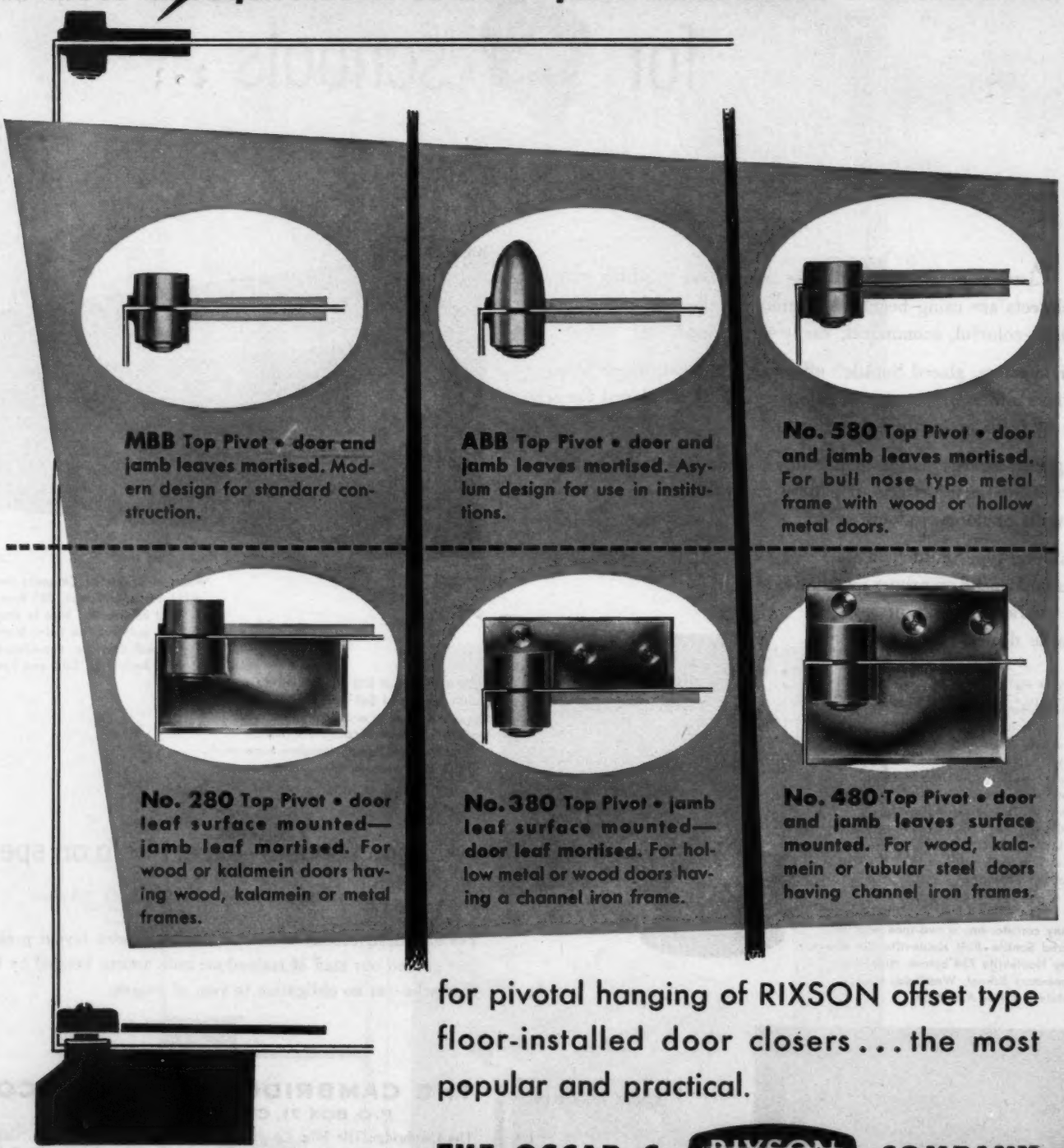




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now 6 RIXSON TOP PIVOTS

to meet all requirements of door–jamb construction and materials



MBB Top Pivot • door and jamb leaves mortised. Modern design for standard construction.

ABB Top Pivot • door and jamb leaves mortised. Asylum design for use in institutions.

No. 580 Top Pivot • door and jamb leaves mortised. For bull nose type metal frame with wood or hollow metal doors.

No. 280 Top Pivot • door leaf surface mounted—jamb leaf mortised. For wood or kalamein doors having wood, kalamein or metal frames.

No. 380 Top Pivot • jamb leaf surface mounted—door leaf mortised. For hollow metal or wood doors having a channel iron frame.

No. 480 Top Pivot • door and jamb leaves surface mounted. For wood, kalamein or tubular steel doors having channel iron frames.

for pivotal hanging of RIXSON offset type floor-installed door closers . . . the most popular and practical.

THE OSCAR C. RIXSON COMPANY

9100 w. belmont ave. • franklin park, illinois

Roller-Smith

PROUDLY ANNOUNCES the NEW...



UNI-BUS BUSWAY

A New Concept in busway systems that obsoletes all other methods of carrying current.

- Low Voltage Drop in ***PLUG-IN*** AND ***FEEDER*** TYPES.
- High Short Circuit Strength in ***PLUG-IN*** AND ***FEEDER*** TYPES.
- ***ONE FLEXIBLE FITTING*** makes elbows, offsets —simplifies engineering and eliminates costly delays.
- ***COMPLETE SAFETY*** because live bus bars at plug outlets and live connections in plugs are eliminated.

And All at Lower Cost!

Roller-Smith
CORPORATION
BETHLEHEM, PENNSYLVANIA



ECONOMY

New clip-on hanger and lighter weight busway mean less installation time. Feeder system often costs less than conduit and wire, yet is 100% reusable.



FLEXIBILITY

Flexible connector eliminates all special fittings so that a minimum number of components meet all job requirements. Plug-in and feeder systems interchangeable.



SAFETY

Interlocked safety slide over plug outlet cannot be opened until covered by plug. Interlocked cover and visible contacts in plug are positive assurance of safety.



Rō-WAY BUILT

is Built to Last!

OVERHEAD TYPE COMMERCIAL AND INDUSTRIAL DOORS

FROM start to finish, long life is solidly built into every Ro-Way overhead type door.

It begins on the drawing board, where exceptional ruggedness is designed and engineered into every detail—the kind of ruggedness that can take years and years of ups and downs in stride.

It shows up in the fine quality of Ro-way materials—selected west coast lumber and specially designed hardware of heavy gauge steel.

It's assured by Ro-Way construction—with all joints mortised and tenoned, waterproof glued and steel pinned; with sections rabbeted for weather-tight fit; with millwork both drum and hand sanded for finest finish; with all hardware Parkerized and painted *after* fabrication for maximum rust prevention.

And it's there in every Ro-Way operating feature—the Taper-Tite track and Seal-A-Matic hinges that work together for easy opening and sure, weather-tight closing; the ball bearing Double-Thick tread steel rollers that glide smoothly and quietly; and the Power-Metered springs that are matched and tension-balanced to the weight of the individual door.

Built? Yes—*built to last!* And that means satisfied clients. If that's what *you* want, specify Ro-Way overhead type doors for all commercial and industrial applications.



FREE ARCHITECT'S MANUAL. *Complete details, specifications, drawings, etc. of entire line of Ro-Way doors. Especially helpful in selecting just the right door. Request Manual 55—on your letterhead, please. No cost or obligation, of course.*

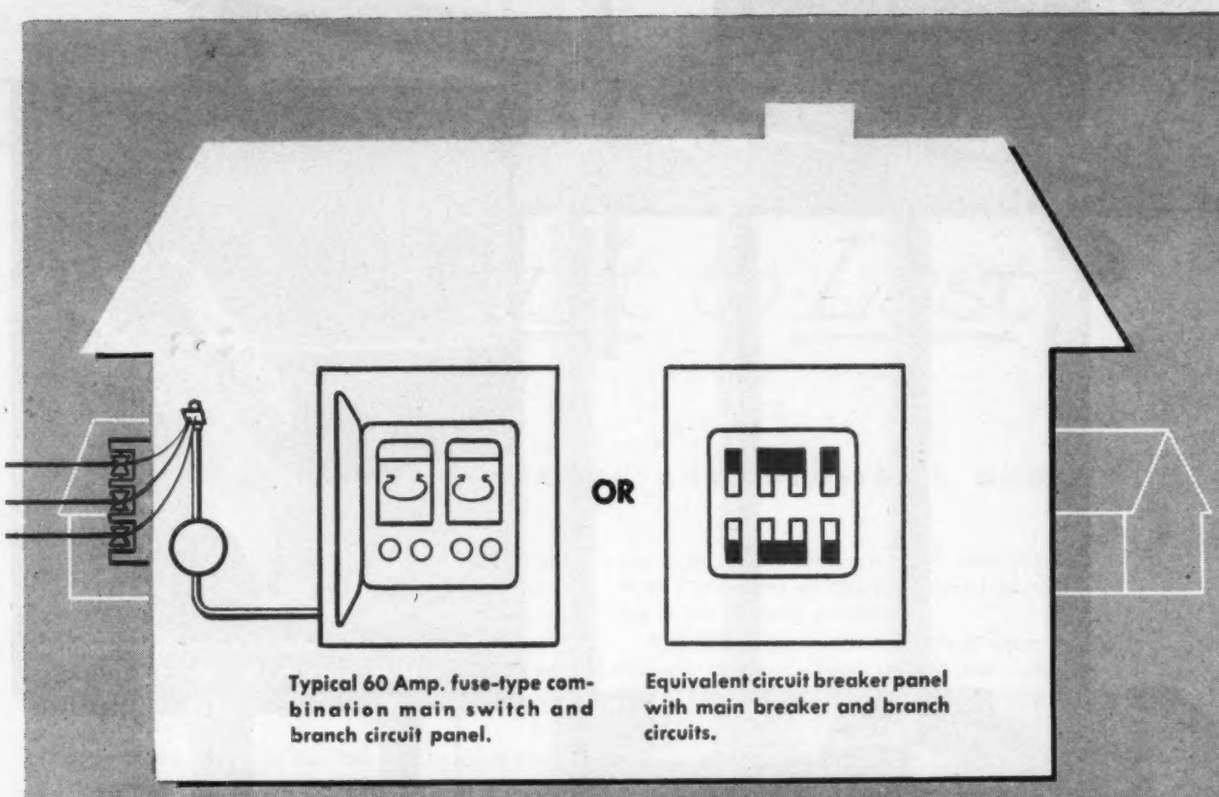
ROWE MANUFACTURING CO., 1253 Holton St., Galesburg, Illinois



Built-in telephone conduit is low in cost. Yet it (1) gives lasting protection to interior beauty, (2) provides the convenience of well-placed outlets, (3) helps assure client satisfaction. Specify conduit for telephone wiring.

Your Bell telephone company will be glad to help you work out economical conduit installations. For details on home telephone wiring, see Sweet's Light Construction File, catalog 8i/Be, or just call your nearest business office. **BELL TELEPHONE SYSTEM**

HOW DO YOUR HOMES RATE IN



Typical 60 Amp. fuse-type combination main switch and branch circuit panel.

Equivalent circuit breaker panel with main breaker and branch circuits.

UNDER-POWERED

60 AMPERES, 120/240 VOLTS

The 60 Amp. house has a basic electrical capacity of *14,400 Watts*. This will supply lighting and plug-in appliances, plus range.

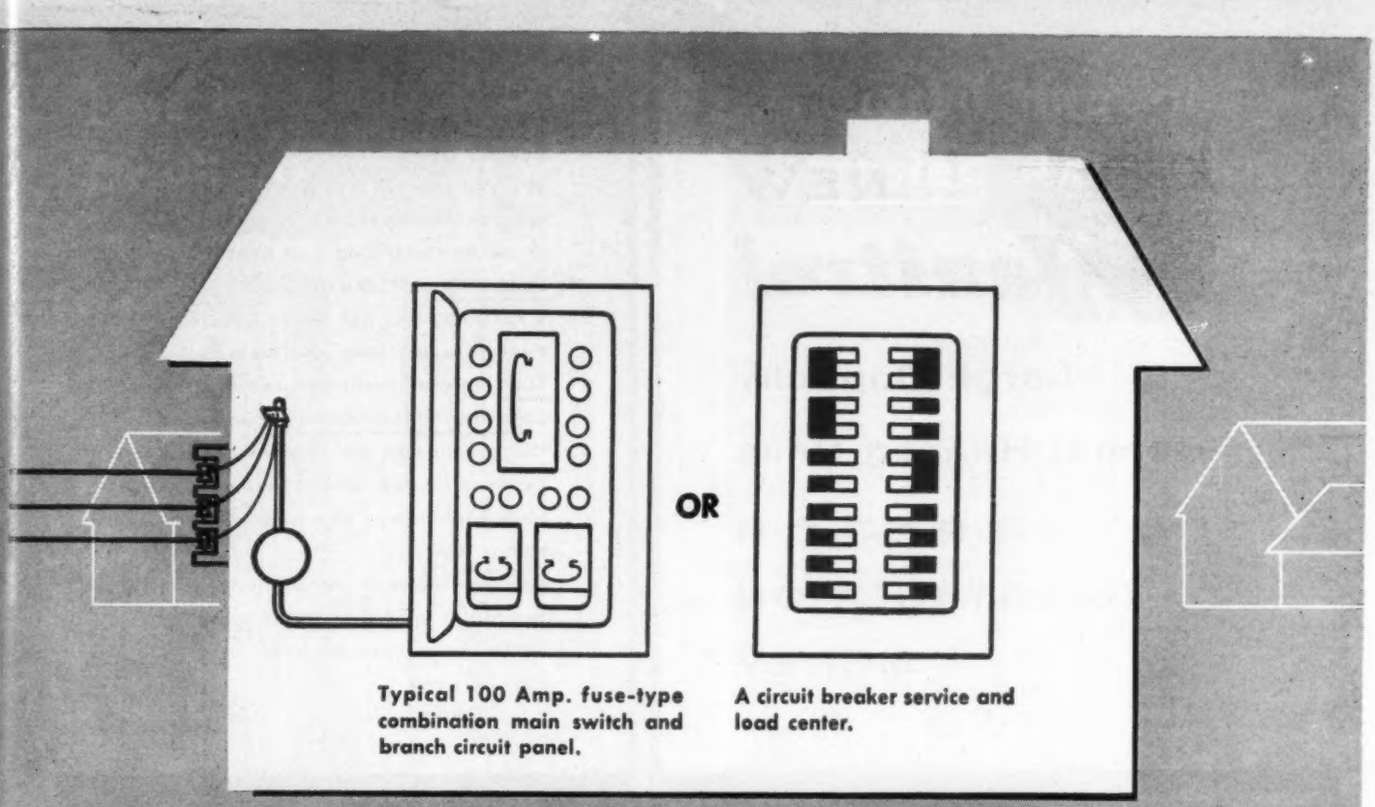
The system would have to be enlarged before any of the major appliances listed under "Full-powered" could be added.

A 60 AMP. SERVICE ENTRANCE JUST ISN'T

Wires *large* enough to carry full, healthy loads of current . . . *plenty* of circuits for both large and small appliances . . . *sufficient* outlets to feed current to every spot where it's needed. *These* are the vital factors to consider when planning a truly modern home!

Before a home can be *called* modern, it must *function* in a modern manner! Home wiring must not only meet the electrical needs of today – it must also look ahead to the future. Too often, the addition of a single new appliance can quickly change the adequately

THEIR SERVICE ENTRANCE EXAMS?



Typical 100 Amp. fuse-type combination main switch and branch circuit panel.

A circuit breaker service and load center.

FULL-POWERED

AT LEAST 100 AMPERES, 120/240 VOLTS

The modern, "Full-powered" house has an electrical capacity of 24,000 Watts — enough power for home lighting and plug-in appliances PLUS the major appliances listed on the right.

Automatic Washer	700 watts
Dishwasher — Waste-Disposer	1500 "
Waste-Disposer alone	500 "
Electric Clothes Dryer	4500-9000 "
Water Heater	2000-4000 "
Home Freezer	350 watts
Water Pump	700 "
Built-in Heaters	1000-1650 "
Room Air Conditioner (¾ ton)	1200 "
(1 ton)	1540 "

ENOUGH FOR THE HOUSES YOU PLAN TODAY!

wired home of today into the *underwired* home of tomorrow!

Avoid this! Plan your homes with an accent on sound, adequate wiring – your clients will appreciate your foresight in bringing them a home that will *stay* modern for years!

Free Home Wiring Wall Chart! Send today for Kennecott's handy wall chart showing typical home circuit loads. Use it as a check list when planning home electrical systems. For your copy, write Kennecott Copper Corp., 161 E. 42nd St., New York 17, N. Y.

Kennecott Copper Corporation

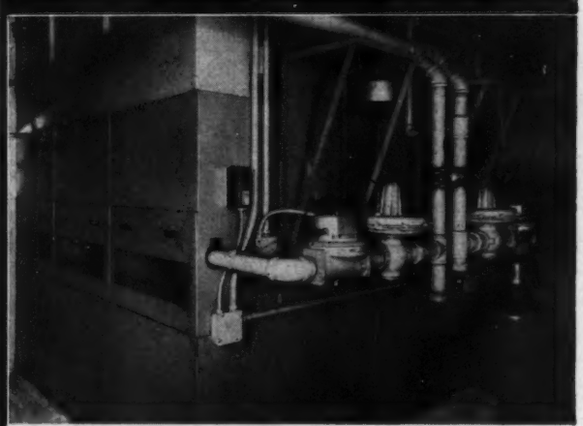
Fabricating Subsidiaries: CHASE BRASS AND COPPER CO. • KENNECOTT WIRE AND CABLE CO.

NEW
®Janitrol
Large Capacity
Central Heating Units
S-T-R-E-T-C-H
CONSTRUCTION
MONEY

Ideal for school house, church, super-market installations, . . . or any other large volume heating or heating and air conditioning applications. . . . Designed for use with central system . . . or as free standing unit heaters.
Capacities: 250,000 Btu to 1,750,000 Btu per hour. —7 sizes.
Factory assembled and tested.
Fuel: Natural, manufactured or LP gas.
Long life and reduced weight achieved through use of well known Janitrol ceramic coated Multi-Thermex heat exchangers and quiet ribbon burners.
See how ease of installation is greatly improved. Investigate our important installation cost savings.



FOR UNIT HEATING
With outlet nozzles attached, this 1,250,000 Btu free-standing combination is used as a factory unit heater. Capable of a wide variety of air and temperature distribution patterns.



FOR CENTRAL SYSTEMS
This 1,500,000 Btu installation is in a church. System is zoned for different activity areas. Unusual quietness and economy have been reported for this system.

for better design . . . see your architect

FIND OUT HOW MUCH YOU CAN SAVE:
Just send your plans to your nearest Janitrol office, or to Columbus, Ohio, for a free cost estimate. Send for specifications.

®Janitrol
GAS-FIRED UNIT HEATERS

Janitrol Heating & Air Conditioning Division
Surface Combustion Corporation
Columbus 16, Ohio

ALSO MAKERS OF *Surface* INDUSTRIAL FURNACES AND *Kathabar* HUMIDITY CONDITIONING

Formula for good seeing:



Take two things out of daylighting—glare and sun heat—and you have the finest light for good workmanship.

That's just what Frosted *Aklo* Glass does for you. It softens and diffuses direct sunlight, sky brightness and dazzling reflections. Rooms not only seem cooler behind this glass . . . they *are* cooler. *Aklo* Glass in ¼" thickness shuts out as much as 44% of the sun's radiant energy.

These are good reasons why you see blue-green *Aklo* Glass in the window walls of so many of today's new buildings.

The pay-off? Greater comfort for occupants, better workmanship, better employe relations, reduced air-conditioning costs.

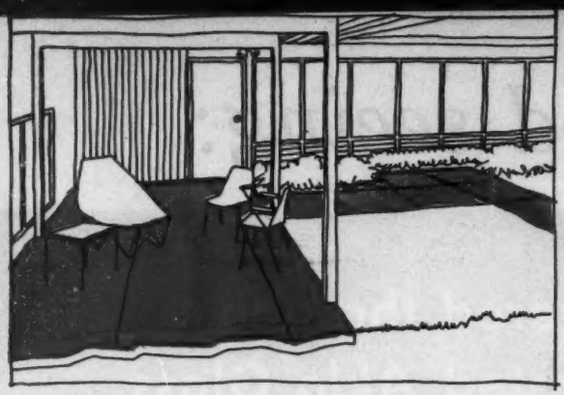
PHONE FOR THIS TEST



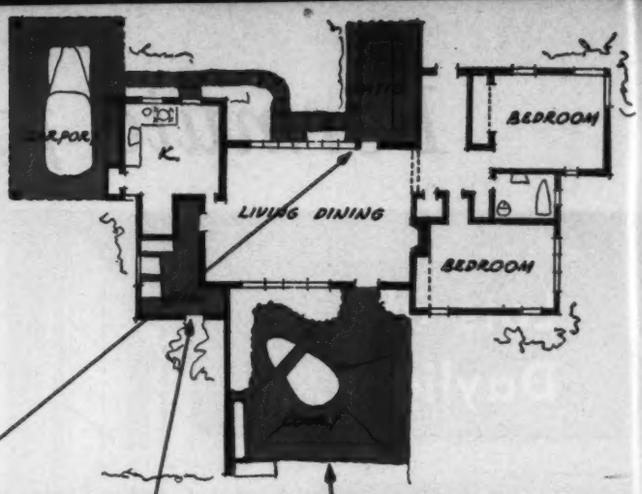
A call will bring a radiometer demonstration kit to your desk. It shows you how *Aklo* Glass reduces glare and sun heat. Call your L·O·F Glass Distributor or Dealer listed under "Glass" in the yellow pages of your phone book. Or write to Libbey·Owens·Ford Glass Company, 608 Madison Avenue, Toledo 3, Ohio.

AKLO GLASS FILTERS DAYLIGHT

made by Blue Ridge Glass Corp.
sold by Libbey-Owens-Ford Glass Distributors



Fused color. *Not a paint or coating! Colorundum is troweled into the concrete topping and becomes an integral part of the surface, producing beauty and durability.*





Nat'l Homes Corp. photo



J. Shulman photo



E. Braun photo

Beautify concrete floors

Colorundum floors give luxury appearance and extra wear resistance at low cost

Here's a simple and economical solution to the problem of exposed or uncarpeted areas of drab, colorless concrete. It's called Colorundum. And the fused-color concrete floor it provides lends a dramatic and practical accent to patios, walkways, and service floors. Colorundum cuts air conditioning costs, too, because its color properties keep sunlit areas substantially cooler than ordinary concrete. Yet its cost is just a fraction of that of tile floors.

Colorundum is far more resistant to traffic than ordinary concrete floors. It is a balanced formulation of nonslip aggregate (next to the diamond in hardness), water-repellent compounds, and durable colors . . . contains no silica, quartz, or sand. It is easy to keep clean, and since it contains no metal, it will not rust or stain.

Colorundum is available in eleven decorator colors.

Subsidiary of *Chemical Corp.*

A. C. Horn Co., Inc.

Dept. 6-11-615, Long Island City 1, N. Y.

Please send me complete information on Colorundum.

*Name*_____ *Title*_____

*Firm*_____

*Address*_____

*City*_____ *Zone*____ *State*_____

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HORN • **HUDSON** • **WILLEY** (paint, maintenance and construction materials, industrial coatings) • **WARWICK** (textile and industrial chemicals, waxes • **RUTHERFORD** (lithographic equipment) **SUN SUPPLY** (lithographic supplies) • **GENERAL PRINTING INK** (Sigmund Ullman • Fuchs & Lang • Eagle • American • Kelly • Chemical Color & Supply Inks) • **MORRILL** (news inks) • and **ELECTRO-TECHNICAL PRODUCTS** (coatings and plastics)



CHASE® COPPER...sign of QUALITY in drainage lines!

Remarkable how inexpensive it is to give drainage lines *two-way extra quality,* with Chase copper drainage tube (DWV). *Far longer* service life and greatly *improved* efficiency are assured.

Drainage lines of Chase copper tube *resist* corrosion—*can't* clog with rust—*stay efficient* over the years! Their interior is smoother; flow is unobstructed at joint connections—*larger volumes* of waste water can pass through them because friction is *reduced!*

Chase copper drainage tube is 4 times *lighter* than ordinary drainage pipe. Can be pre-assembled and installed with great savings in time! It can be cut to length right on the job. Requires fewer joints because it comes in 20 foot lengths. And rugged, leakproof solder joints fit within standard partitions, eliminating expensive furring out!

Insist on Chase copper drainage tube (DWV). Add *extra-value* to every home—with *little or no extra cost!*



Longer-lasting radiant heating installations are economical, quick and clean when made from Chase copper water tube. No worry about leaks or repairs—can't clog with rust!

Chase

BRASS & COPPER CO.

WATERBURY 20, CONNECTICUT • SUBSIDIARY OF KENNECOTT COPPER CORPORATION

The Nation's Headquarters for Brass & Copper

Albany†	Chicago	Detroit	Los Angeles	New York	St. Louis
Atlanta	Cincinnati	Grand Rapids†	Milwaukee	Philadelphia	San Francisco
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Boston	Dallas	Indianapolis	Newark	Providence	Waterbury
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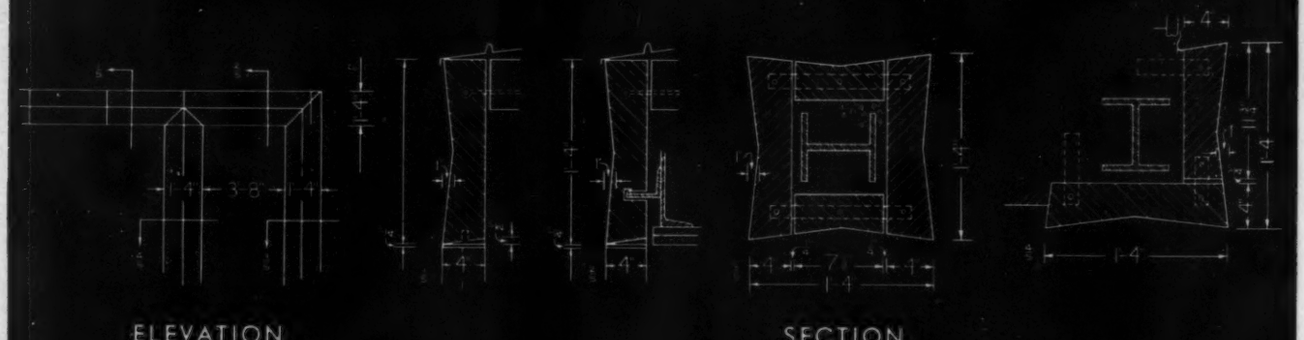
ilco
LIMESTONE

Number 4 of a series

APPLICATIONS IN CONTEMPORARY ARCHITECTURE

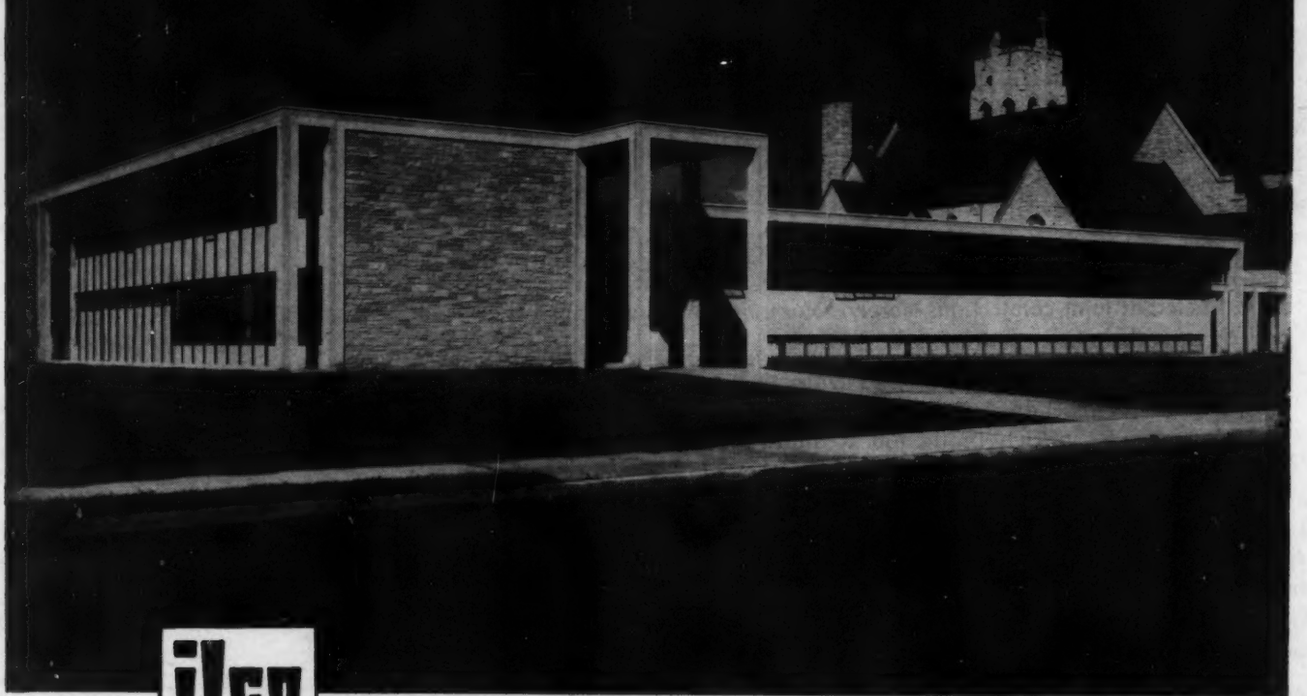
LINTEL DETAIL AND COLUMN DETAIL

Sunday School Building, Mt. Olivet Lutheran Church
Minneapolis, Minnesota
Magney, Tusler & Setter, Architects
Kraus-Anderson, Inc., General Contractor
Rich-McFarlane Cut Stone Co., Stone Fabricator



ELEVATION

SECTION



ilco

INDIANA LIMESTONE COMPANY, INC.
BEDFORD, INDIANA
World's Largest Producers of Building Stone

ASK YOUR LOCAL STONE FABRICATOR OR ILCO REPRESENTATIVE FOR ESTIMATES



ART METAL ELIPTICONES

Dramatize School Entrance

Wm. B. Ittner, Inc., St. Louis architects and engineers, created this highly dramatic lighting effect at the main entrance to the Academic Building of the new Clayton High School, Clayton, Missouri.

Only three ART METAL Elipticone Light Multipliers, using 150 watt reflector lamps, were required to produce this striking effect. Obviously, it suggests many other applications.

We suggest you write to The ART METAL Company, Cleveland 3, Ohio, for full data on this remarkable equipment.

The above illustration is a completely unretouched photograph, showing how this unusual lighting equipment highlights the remarkable architecture of the building.

The **ART METAL** *Company*



Your floor makes a Grand Entrance with Flexachrome!

Dress up your client's entrances, lobbies or waiting rooms . . . quickly, easily and at moderate cost . . . with Flexachrome Vinyl-Asbestos Floor Tile.

Flexachrome is as versatile as your imagination. It will give you just about any floor design or color scheme you want. You have 23 unusually smart, brilliant colors to choose from . . . a wide range of sizes . . . custom-made inserts . . . tile-at-a-time installation.

As far as wearing ability is concerned, your clients get more "mileage" out of Flexachrome than you ever thought possible.

Flexachrome is greaseproof and highly resistant to scuffs, acids and alkalies. And its smooth, close-textured surface makes it easy to keep clean and sanitary. Daily sweeping and periodic washing is all that is necessary.

You'll like the quick, easy installation and the many extra years of beauty and satisfactory performance.

Get in touch with your Tile-Tex Contractor for complete specifications and samples, design and layout assistance. You'll find him in the local classified telephone directory. Or write:

THE TILE-TEX DIVISION, The Flintkote Company, 1234 McKinley Avenue, Chicago Heights, Illinois

TILE-TEX—PIONEER DIVISION, The Flintkote Company, P. O. Box 2218, Terminal Annex, Los Angeles 54, California

THE FLINTKOTE COMPANY OF CANADA, LTD., 30th Street, Long Branch, Toronto, Canada

*Reg. U. S. Pat. Off.
†Trademark of The Flintkote Company

TILE-TEX... *Complete Flooring Service*

Manufacturers of Flexachrome*... Tile-Tex*... Tuff-Tex*... Vitachrome*... Holiday†... Mura-Tex* ... and Modnar†, the newest development in asphalt tile. See our catalog in Sweet's Files.

NOW IT'S HERE

a gas vent as finely engineered as the latest gas equipment for today's modern homes

RV METALBESTOS
ROUND GAS VENT

companion product to new WV Metalbestos oval vent. Now a complete venting line — correctly designed, thoroughly tested to provide a new standard in scientifically correct venting.

NEW EASE OF INSTALLATION

Rota-Lock Coupler joins pipe easily without forcing — locks permanently, yet is easy to unlock. Not a friction or snap lock — no cement or mastic, no screws needed.

NEW SAFETY

fire-resistant steel outer pipe; permanently tight joints; improved double-wall, air-insulated design.

NEW STRENGTH

rugged steel jacket protects inner pipe, resists damage in handling; won't crack, break or collapse.

NEW FREEDOM OF DESIGN

a complete venting system backed by engineering knowledge to solve any installation problem. Requires about 15% less space than any other gas vent. Full line of pipe and fittings, 3" to 6" diameter.

RV Metalbestos is listed by Underwriters' Laboratories as a Type B vent for venting approved gas appliances. (Not for use with oil-burning appliances or gas-fired incinerators.)

THE ROTA-LOCK COUPLER*
an exclusive **METALBESTOS** feature

- a slight turn and it locks — permanently
- another easy turn and it unlocks (saves fitting time during installation)



UNLOCKED
TONGUE RELEASED — PIPES EASILY COUPLED AND UNCOUPLED



LOCKED
TURN OF COUPLER BAND ENGAGES TONGUE IN GROOVE — PIPES SECURELY LOCKED TOGETHER

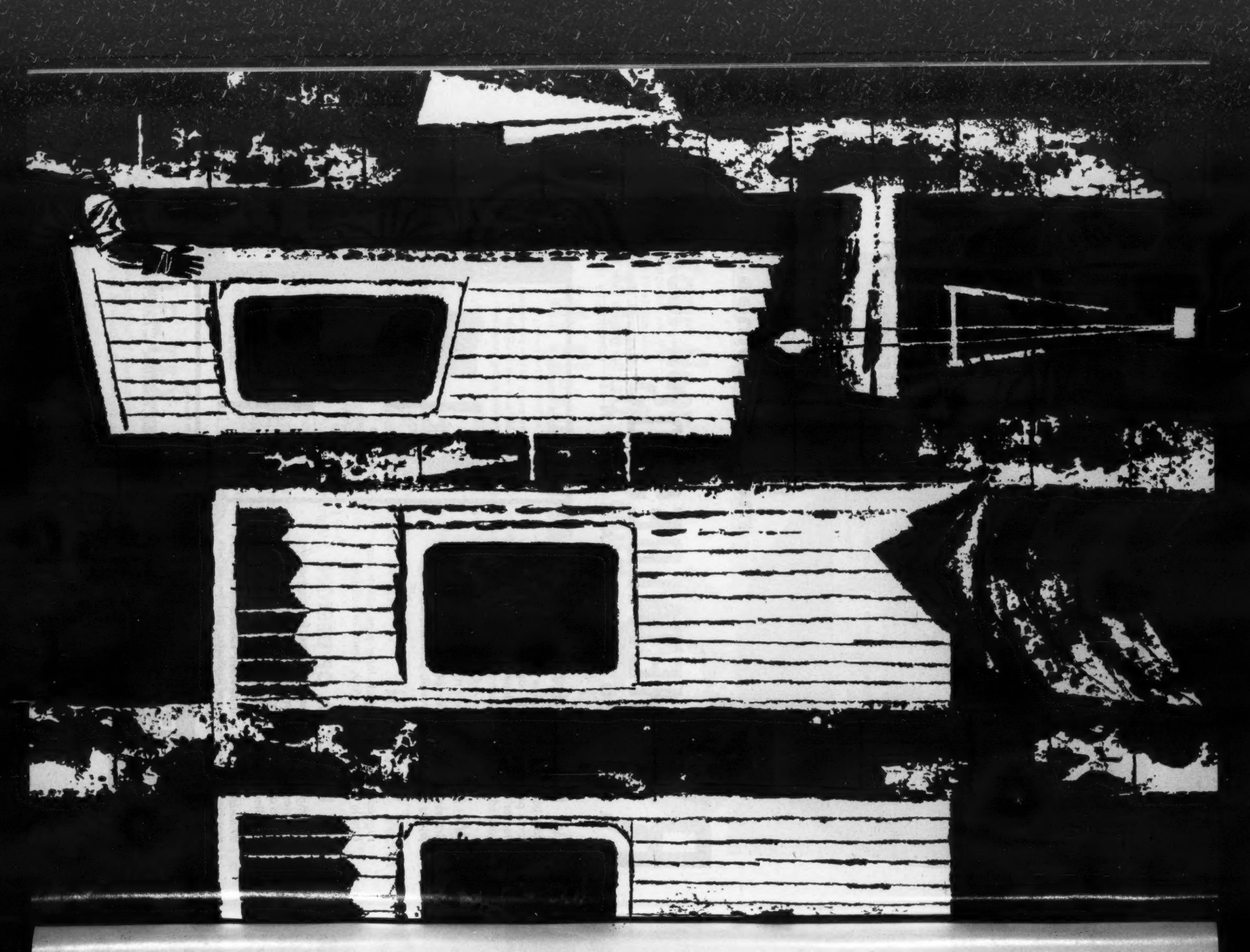


*** Patent Pending**

Stocked by principal jobbers in major cities. Factory warehouses in Atlanta, Dallas, Philadelphia, Des Moines, Chicago, New Orleans.



METALBESTOS DIVISION
WILLIAM WALLACE COMPANY · BELMONT, CALIF.



Rippel Architectural Metals, Inc., uses

MILLION POUNDS OF ALCOA ALUMINUM IN PRUDENTIAL'S NEW CHICAGO SKYSCRAPER

Nearly a million pounds of Alcoa® Aluminum will be used in building Chicago's newest skyscraper, the modern mid-American home office of The Prudential Insurance Company of America. When completed in 1956, the 41-story structure will be the fifth largest office building in the United States, with more than one million square feet of rentable space.

From an architectural standpoint, the new skyscraper presents a striking appearance. Its exterior facing features the use of 2,650 gleaming aluminum panels set in continuous vertical lines. Combination window-and-spandrel units, the panels have flanges that cap adjoining masonry columns.

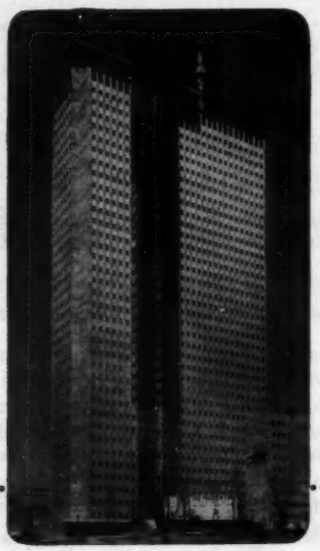
The use of aluminum panels on the new Prudential Building is an outstanding example of the rapidly increasing trend toward aluminum as an exterior wall-facing material. Easy to erect, aluminum panels offer long-lasting beauty, high insulating value and virtually maintenance-free service. Aluminum Company of America, 1888-F Alcoa Building, Mellon Square, Pittsburgh 19, Pennsylvania.

The fine workmanship shown in the panels and their exceptional uniformity in color both demonstrate the experience and know-how of the Rippel team.

Architect—
Naess & Murphy,
Chicago, Ill.

General Contractor—
George A. Fuller Co.,
New York, New York

Aluminum Subcontractor—
Rippel Architectural
Metals, Inc.,
Chicago, Ill.





Panels are completely prefabricated in the Rippel company's modern, well-equipped Chicago plant and are installed by Rippel's own expert construction crews.

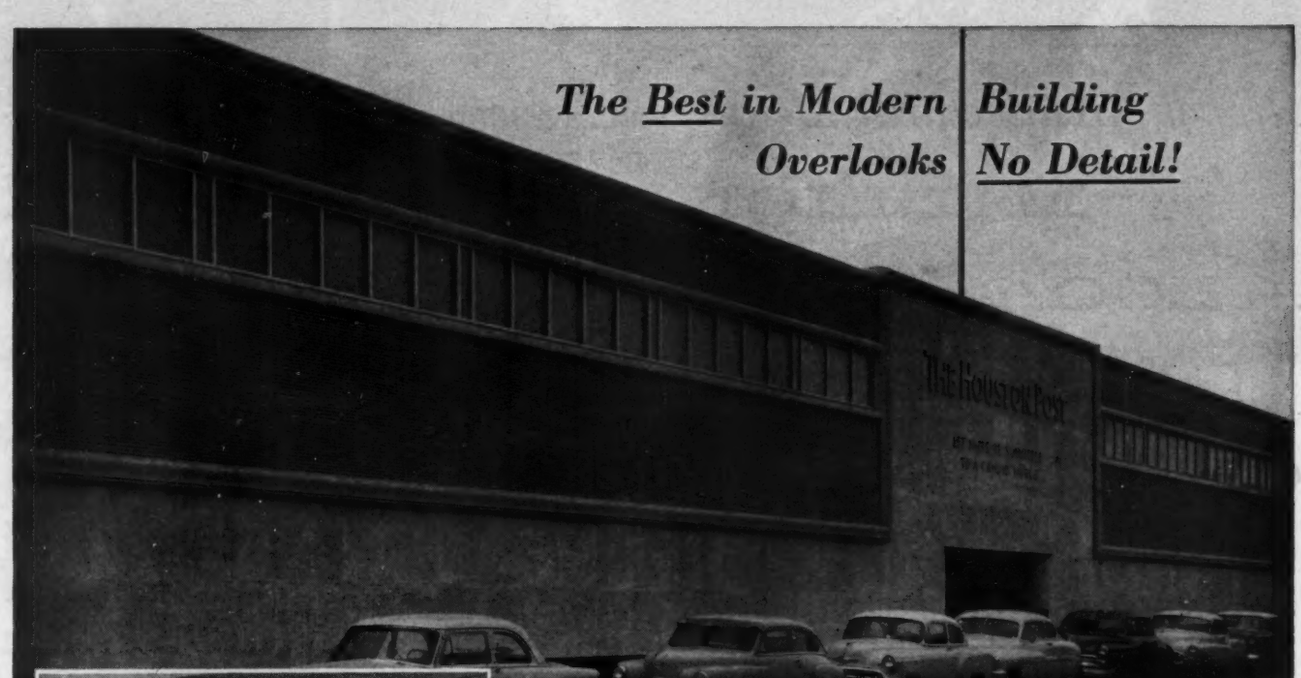


All exterior aluminum construction is the work of Rippel Architectural Metals, Inc., of Chicago, which saw the job from their own drawing boards to finished installation.

YOUR GUIDE TO ALUMINUM VALUE

ALCOA ALUMINUM

ALUMINUM COMPANY OF AMERICA



Architects and Engineers: Herbert Voelcker & Associates *Contractors:* E. Lee Bond



The beautiful new

HOUSTON POST

for instance

is typical of installations of the NORTON "INADOR"

The rugged, heavy-duty reliability only a liquid closer provides—plus concealed construction for trim, modern beauty!

Outstanding example of design, workmanship, and materials, is the new $4 million *Houston Post* Building, recently completed to handle the Post's increasing circulation.

No effort was spared to achieve the fullest functional beauty...combined with heavy-duty utility required of a structure destined to be a focal-point of civic activity!

The selection of Norton "Inador" closers for its interior door control is an ideal example of how this twofold requirement is met. For—as a true liquid closer—the "Inador" will provide the *Post* Building with extra-long years of reliable, minimum-maintenance service...even under the "slam-bang" of constant traffic and hard use. At the same time, the concealed "Inador" construction makes possible the clean, streamlined beauty that today's architecture definitely demands!

If *you* have a new building of any type on the way...see that it, too, gets the advantages of the Norton "Inador"!

Only the "INADOR" offers all these exclusive NORTON features:

- **Rack and Pinion Construction** gives uniform, positive checking at every point!
- **New Aluminum Shell** for lighter weight, robust wear. Proved by use on our surface closers for over 7 years!
- **Special Spring** of highest-quality steel!
- **Non-Gumming, Non-Freezing Hydraulic Fluid** *permanently* lubricates every inside moving part!
- **Double Adjusting Levers,** easily moved by fingers, control speed of closing action and latching action!
- **Regular Arm Series,** as well as Holder Arm models, so suitable for hospital use!
- **Famous Guarantee** for 2 full years, providing proper recommended sizes are used!

Write today for FREE Catalog on Norton's full line of Concealed and Surface Door Closers!

NORTON®

Dept. AR65, Berrien Springs, Michigan

"Over 70 Years of Leadership in the Door Closer Industry"



U. S. Gypsum Research Village; Designing Architect: Harris Armstrong, AIA; Builder: D. H. Drummond; Photograph: Hedrich-Blessing

Selected for the U.S. Gypsum Research Village...

GOLD SEAL Cork Tile



Featured in the famous U. S. Gypsum Research Village, Gold Seal Cork Tile is being used in more and more homes and businesses throughout the country. It's the tile that takes all the warmth, beauty, quiet and resilience of top quality natural cork, and binds it together into a highly superior product.

Unsurpassed in resistance to soiling by any other cork tile on the market—proved by laboratory tests. You can actually feel the super-smooth factory finish of Gold Seal Cork Tile by running your hand over the surface.

Carefully blended cork granules make each tile look handsomer—and as natural as if it were planed from the original tree.

Tremendous durability of Gold Seal Cork Tile is due to the use of superior synthetic resins and top quality cork.

Ideal for floors and walls in residential areas; offices, reception rooms, libraries, churches—any place where quiet luxury is the prime requisite. Can go on-grade, even over radiant heat, as an excellent basic floor.

Satisfaction guaranteed—or your money back; that's the way the Gold Seal protects you and your clients.

Specifications: 6" x 6", 6" x 12", 9" x 9", or 12" x 12" tiles in either ⅛" or 3/16" gauges. Beveled edges for easier installation. Packed two ways: light only . . . or a random combination of light, medium, dark. Installation over concrete or wood, on or above grade, with or without radiant heat (on-grade, specify Gold Seal "Three-Twenty" adhesive).

For home or business...
you get the finest choice of all in...

INLAID LINOLEUM • RANCHTILE® LINOLEUM • VINYLFLOR • VINYLTOP • LINOLEUM, VINYL, VINYLBEST, RUBBER, CORK AND ASPHALT TILES • CONGOLEUM® AND CONGOWALL® ENAMEL-SURFACE FLOOR AND WALL COVERINGS

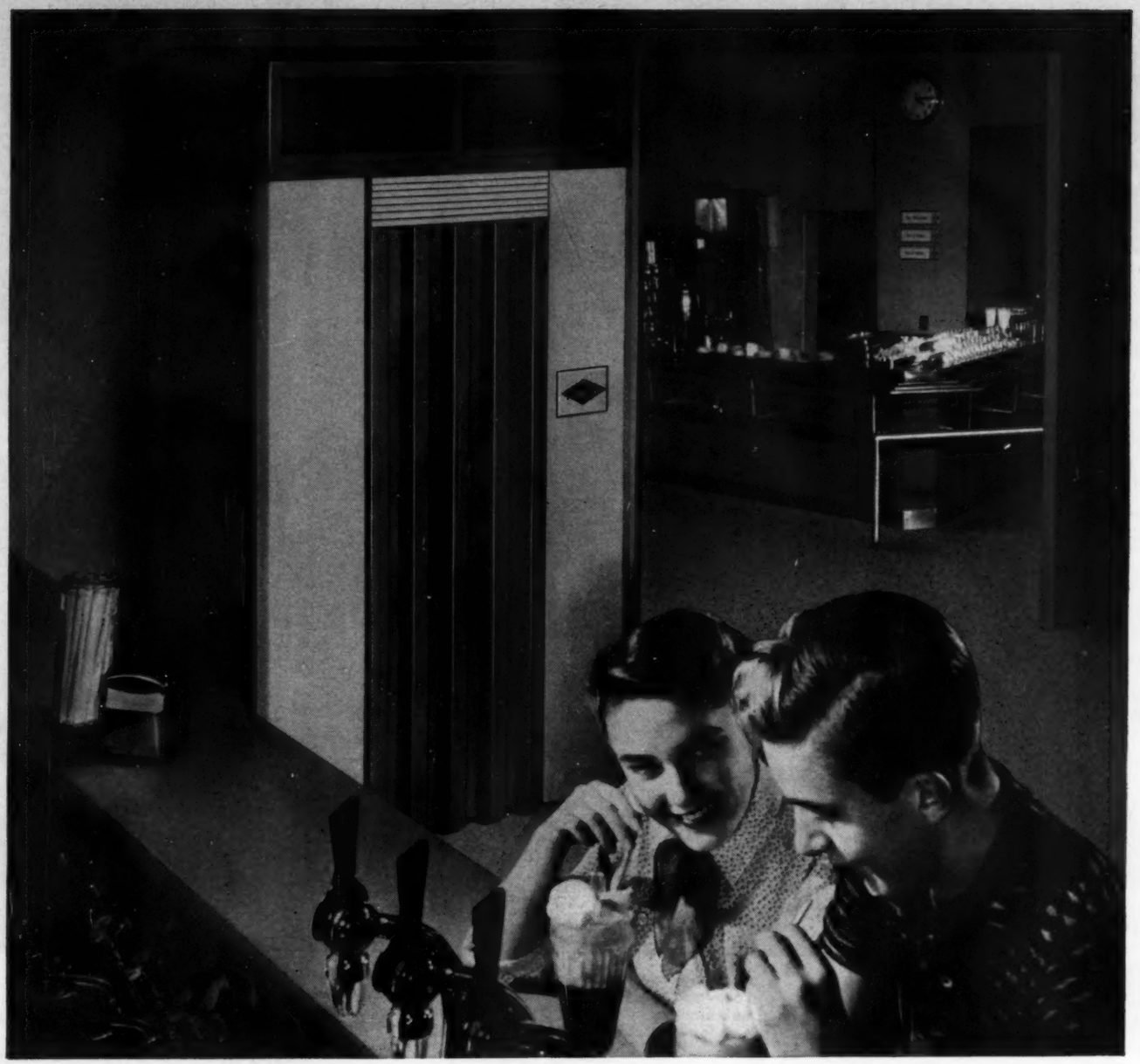
GOLD SEAL
FLOORS AND WALLS
CONGOLEUM-NAIRN INC. KEARNY, N. J.



"EVERYTHING HINGES ON HAGER!"*

HAGER HINGES *®

C. Hager & Sons Hinge Mfg. Co. • 139 Victor Street • St. Louis 4, Mo.
Founded 1849—Every Hager Hinge Swings on 100 Years of Experience



Extra capacity... distinctive appearance

the UNARCO ROYAL-AIRE

Efficient in operation and smart in appearance, the UNARCO *ROYAL-AIRE* is an air conditioner capable of conditioning rooms of many sizes and dimensions.

The *ROYAL-AIRE* is styled to fit into most any background. Four-way directional louvers, generous-sized components and a large, vertical cooling coil provide maximum dehumidification and cooling. The exclusive UNARCO pump-down control system guarantees *instant* cooling coil response and reduces system operating pressures.

Available in 5 full-rated capacities, the *ROYAL-AIRE* is especially adaptable to many different and normally difficult kinds of installations. Being "demountable" into three sections, it is extremely easy to handle and install.

For stores, offices, cafeterias or auditoriums, the UNARCO *ROYAL-AIRE* will do an efficient, dependable job of air conditioning. For further information and descriptive literature address the Heating and Cooling Division

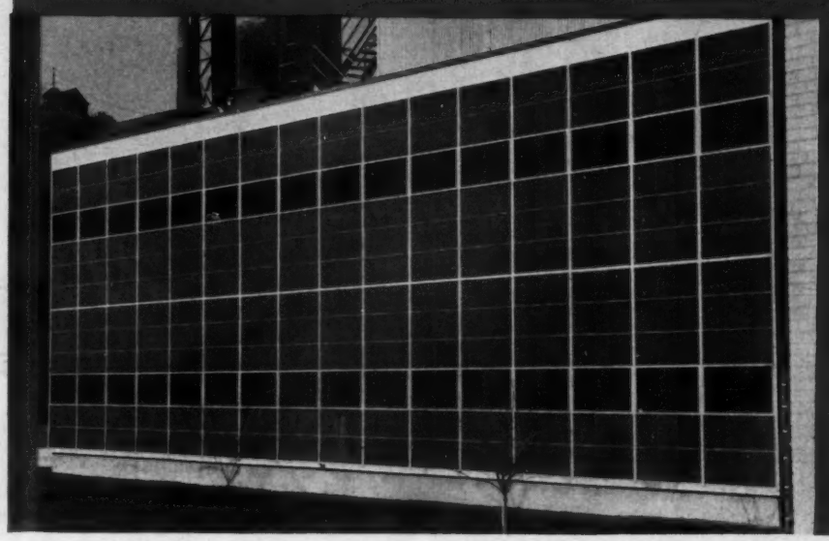
UNION ASBESTOS & RUBBER COMPANY
332 South Michigan Avenue • Chicago 4, Illinois

the UNARCO ROYAL-AIRE ...a quiet, efficient AIR CONDITIONER

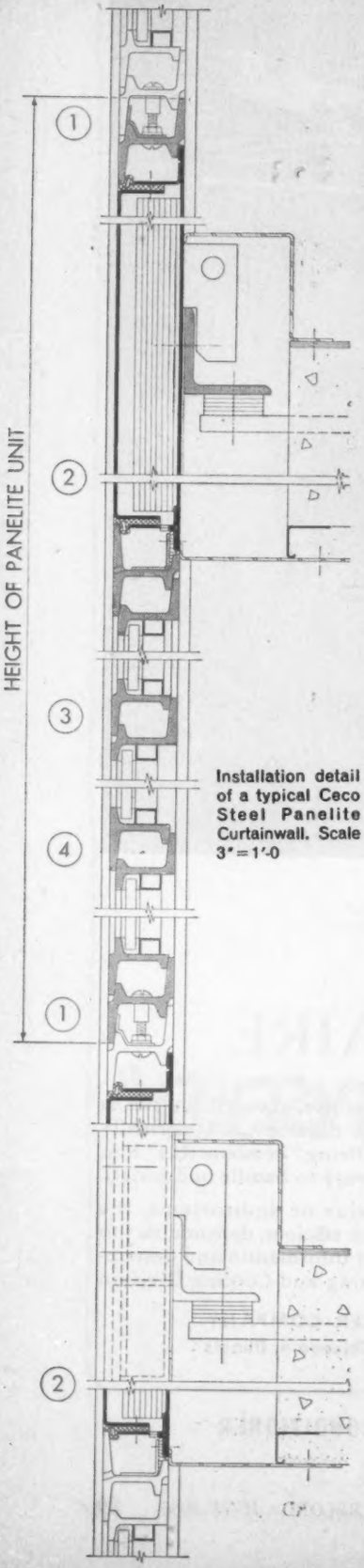
CECO STEEL



Here is another application of curtainwall treatment. Ceco Window Engineers co-operated with architects Perkins & Will in working out an unusual mullion treatment.



Curtainwall construction was used at Lever Brothers Research Center, Edgewater, N.J. Here again Ceco Window Engineers worked closely with architects Skidmore, Owings & Merrill in achieving proverbial "window skin" of simple modern beauty.



Installation detail of a typical Ceco Steel Panelite Curtainwall. Scale 3"=1'-0

How to avoid pitfalls in curtainwall window construction



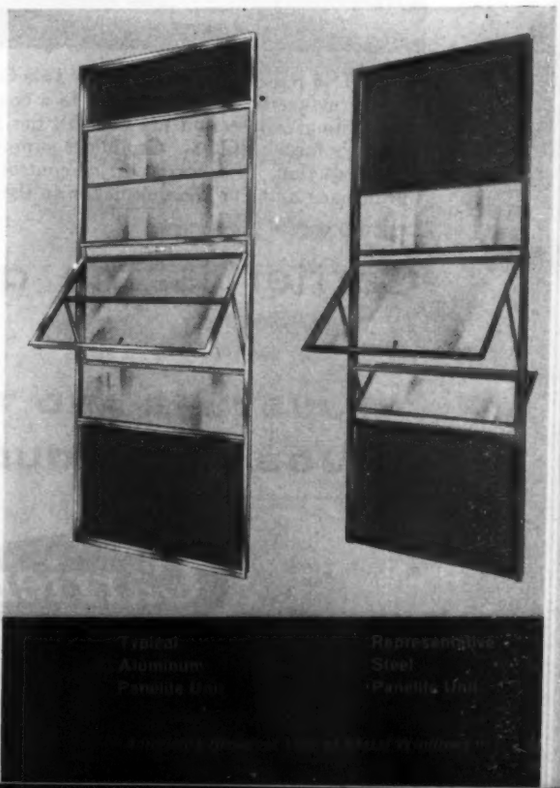
This typical Ceco Panelite application shows only one of the many effects architects can obtain with Ceco Panelite Curtainwall service. There is simple beauty here, accented by color plus pleasing sight lines which result in a modern open effect.

Ceco Window Engineers offer consultation service . . . before design . . . on Panelite Engineering Principles

Never have architects had it so good with texture, pattern and color than in the field of curtainwall construction. Here truly is an architectural form that allows great freedom of design.

But there are practical principles to consider, too. Your nearest Ceco Window Engineer can help you avoid annoying construction headaches, field corrections and overspending. So call him in *before* the job is planned. Together, you and he can examine window basics—so the installation will flow smoothly and surely to completion. For instance—how is the "skin" to be tied to the skeleton? How are insulating panels to be installed? What about weathertightness? Window-washing? Condensation? You can be sure all construction problems are covered. Ceco understands each architect has his own design ideas—each job is a separate problem. But there are practical ways, based on Ceco Panelite principles, of carrying out your ideas economically and promptly.

The Ceco Panelite System of Curtainwall construction provides flexibility in panel arrangement, ventilating areas, fixed glass areas, and color for exterior walls. Erection is fast and simple . . . the skin is light and thin . . . square foot floor area costs are reduced because the entire building is lightened . . . usable floor area is increased. So call on Ceco for Panelite service, including bidding information, shop drawings, installation details, insulating panels, windows and erection.

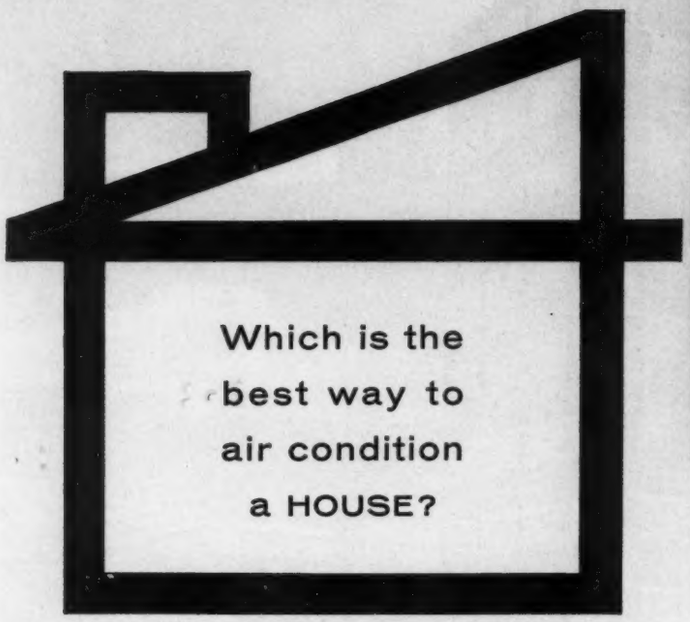


CECO STEEL PRODUCTS CORPORATION

Offices, warehouses and fabricating plants in principal cities

General Offices: 5601 W. 26th St., Chicago 50, Ill.

IN CONSTRUCTION PRODUCTS CECO ENGINEERING MAKES THE BIG DIFFERENCE





WHEN THE HOUSE HAS A BASEMENT? You can team this Carrier Conversion Weathermaker* with a warm air furnace. The cooling coil section fits on top of the furnace over the supply air outlet. See, it takes up no floor space! Slim copper tubing connects the cooling coil section with the refrigeration section which is located anywhere outdoors.



WHEN THE HOUSE IS ON A SLAB? This Carrier Conversion Weathermaker is the perfect mate to a counterflow furnace. The cooling coil section fits beneath the furnace, uses the furnace's fan and filters. Cooling is supplied by the refrigeration section. A special Carrier control panel interlocks the furnace and the Weathermaker so they operate as one.



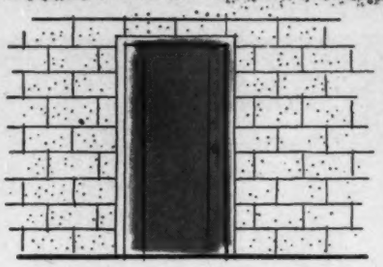
WHEN THE HOUSE IS OVER CRAWL SPACE? The cooling coil section of this Carrier Conversion Weathermaker is designed for horizontal air flow. It pairs off neatly with a horizontal-type furnace, takes no space in the house. All Carrier Conversion Weathermakers are air-cooled; they need no water to carry off the heat absorbed by the refrigerant.

Carrier is the quickest way to the right answer

JUST 1–2 AND THE JOB IS THROUGH!

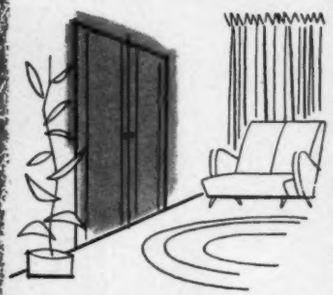
Carrier has *all* the ways to air condition *any* job—and all Carrier equipment is engineered to the same uniform standard. So short-cut hours of selection by (1) using the Carrier line as your shopping guide and then (2) comparing values. Get in touch with your Carrier dealer or distributor. He's listed in the Classified Telephone Directory. Or write to us directly. Carrier Corporation, Syracuse, New York. *Reg. U.S. Pat. Off.

Carrier air conditioning · refrigeration · industrial heating

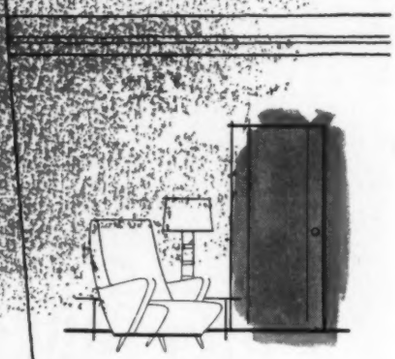


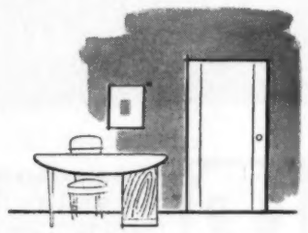
STANDARDIZED MODULAR STEEL DOORS and FRAMES *fit perfectly*

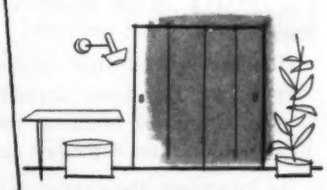
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. . . fit finest surroundings







USF has set a standard of precision and "fit" for metal doors and frames that cannot be matched consistently by even the finest hand-crafted door.

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It's super-luxurious Bigelow carpet for TWA's Super-G Constellations!





TWA provides only the best in convenience and comfort for passengers of Super-G Constellations. So carpet had to be much lovelier and much more *luxurious* than run of the mill commercial carpet—as well as hard-wearing.

Bigelow solved this special problem by weaving a carpet from the finest imported wools. A carpet that is custom-dyed for striking beauty. A carpet with pile 75% deeper than ordinary commercial carpet.

As intended, the carpet is of such heavy weight that it could not be used in any other than the most powerful of commercial aircraft—a tribute to the superpower of TWA's Super-G Constellations.

Every tuft is evidence of TWA's finer service—and Bigelow's leading position in the carpet world.

If you're planning a carpet installation, call on Bigelow carpet specialists for the answer to your problem. In Bigelow carpet you have the advantages of better appearance, better quality—and a better return of carpet value for the money you spend.

For complete details write to Bigelow Contract Dept., 140 Madison Avenue, New York 16, N. Y.

see our catalog in ARCHITECTURAL FILE or write for copy

Bigelow... Number 1 name in Carpets

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Contractor—Howard S. Wright
Glazier—Bradford Glass

LUSTRACRYSTAL is economical because 7/32" LUSTRACRYSTAL costs 35% less than ¼" plate glass. It's completely satisfactory for jobs such as the one above. The Children's Orthopedic Hospital is completely glazed with LUSTRACRYSTAL. The architects were able to make lavish use of glass yet keep their cost down.

LUSTRACRYSTAL is the product of a patented vertical drawn process, many features of which were developed by the AMERICAN Window Glass Company for its own use. Careful testing plus accurate inspection assures you whiter, flatter, clearer glass—LUSTRACRYSTAL.

Here's an additional plus value. When you specify LUSTRACRYSTAL—upon request, the Company will inspect the installation and, without expense, report whether the glass furnished is the kind, quality and thickness specified. Be sure to specify the economical glass for large openings, LUSTRACRYSTAL.

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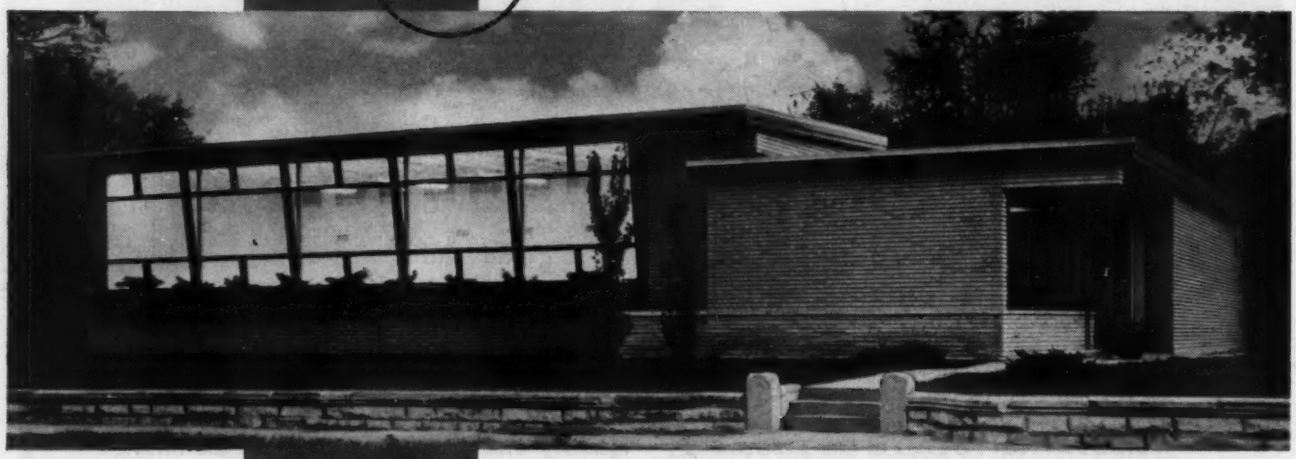
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Today the many buildings of all types for which these architects approved the use of Lehigh Mortar Cement—including their own office—stand as solid proof of its uniform high quality.



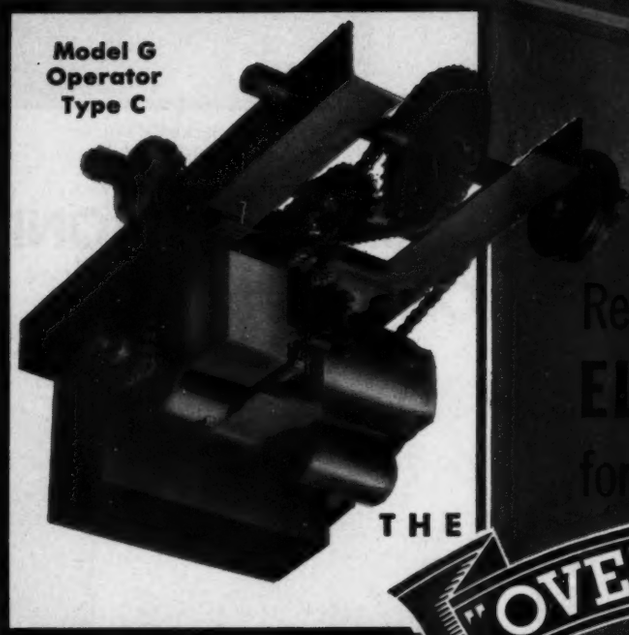
Attractive office building of Mann & Company. architects, Hutchinson, Kansas.

Lehigh meets the most rigid mortar standards. U. S. Government Specification SS-C-181c, Type I and Type II and ASTM Specification C91-53. Type I and Type II, *which include the autoclave test for soundness.*

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HUNG CEILING MAKES NEAT AIR CONDITIONING INSTALLATION, SAVES ON DUCTWORK

Fred Safran, well-known New York architect, was faced with the problem of remodelling three floors of a 33-year-old Brooklyn building into an attractive, air-conditioned sales and service center for a large business machine company.

After taking into account the building construction, the heat produced by operating business machines, varying occupancy loads, lighting and ventilating needs, a 15-ton General Electric Packaged Air Conditioner was installed on the first floor, and 10-ton units on each of the two floors above. Conditioned air is distributed through ducts concealed in the hung ceiling, and ceiling diffusers with dampers give precise local zone control. The G-E units take up a minimum of floor space and are completely enclosed, resulting in a neat, built-in installation at a moderate cost.

On the air conditioning phase of this assignment, Mr. Safran worked closely with the Billen Engineering Company, a G-E Air Conditioning Contractor in New York City, to meet the new tenant's specific requirements.



Write for architectural data. General Electric Company, Commercial & Industrial Air Conditioning Department, 5 Lawrence St., Bloomfield, New Jersey.

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- *3, 5, 7½, 10, and 15 ton units can be used singly or in multiple to meet air conditioning needs of any building.*
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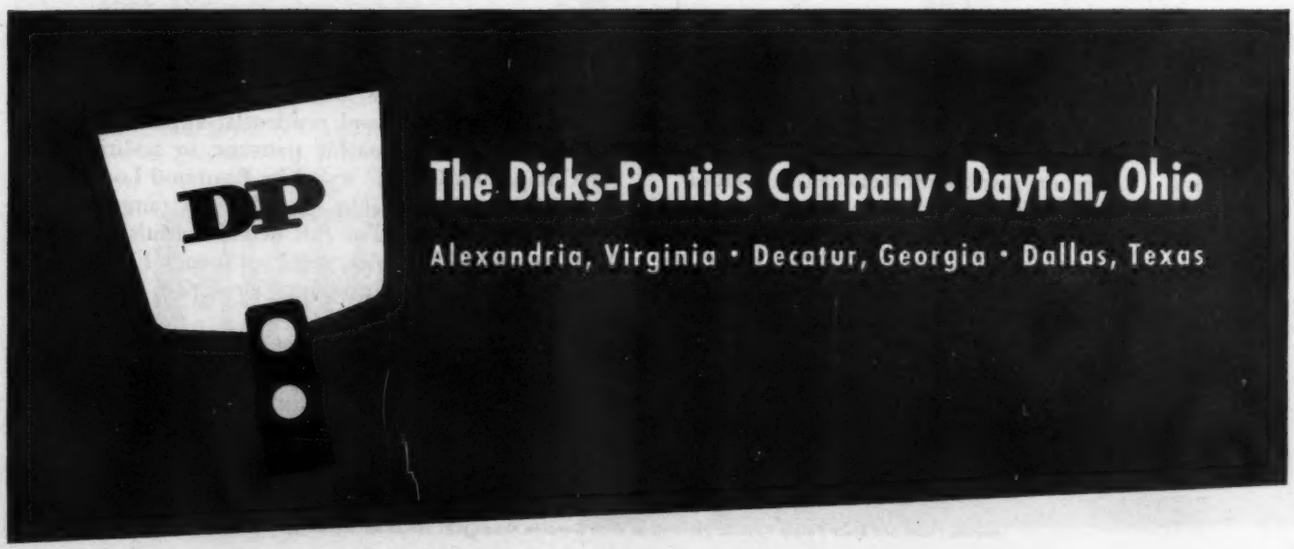
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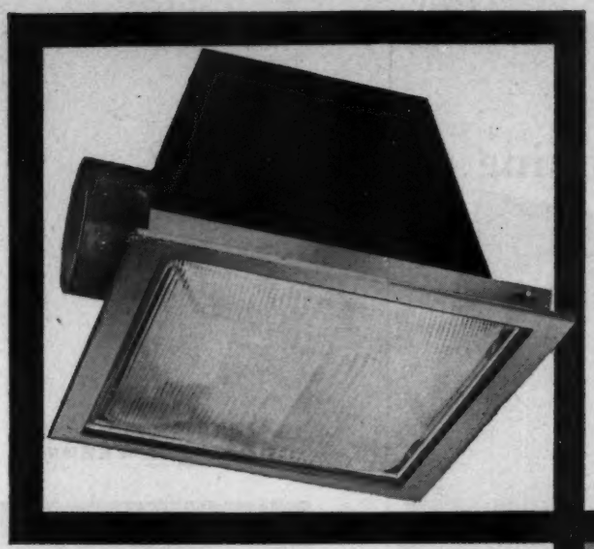
Marlite is different than other wall surfacing materials. It provides an *economical* and *distinctive* surface that stays that way for years. Moreover, Marlite's plastic finish resists grease, heat, and stains. That means lower maintenance costs; elimination of periodic redecorating. Even repeated washings with soap and water won't affect Marlite's beauty.

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New CURTIS SQUARE RECESSED INCANDESCENT SERIES

For 100, 150, 200 and 300 Watt Lamps, with flush or flange type hinged door construction

Accommodates a variety of glass lenses or a patterned louver

These new Curtis square recessed units are efficient downlights for accent, supplementary and general lighting in residential and commercial areas. Both flange and flush types can be recessed into a 12" opening in any type new or old ceiling construction, by means of special Curtis mounting support brackets. Curtis square recessed units have a new patented* door and frame construction. The door is a die-casting of light metal finished either baked white enamel or heavy chrome plate. The hinges are completely concealed and no screws, catches or fasteners are used to close the door, or detract from the appearance of the frame.

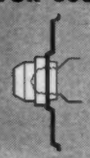
The outer housing is of heavy gauge, steel finish, baked black enamel. The contour and design of the reflector directs the maximum amount of light through the lens. It is specular finished Alzak Aluminum after forming.

All units are listed by Underwriters' Laboratories, Inc. for installation singly, in groups or patterns. Write for descriptive literature. Serial No. 2433.

*PAT. No. 2,701,840

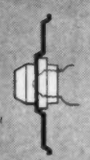
Simple adjustment centers light source of various lamps for maximum output.

FOR 300 WATT LAMP



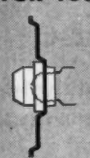
The unit comes factory assembled for use with a 300 Watt, medium base lamp mounting plate and socket in this position.

FOR 200 WATT LAMP



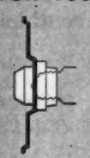
Move lamp socket from the outside of the mounting plate to this position. Mounting plate remains in same position as factory assembly.

FOR 150 WATT LAMP

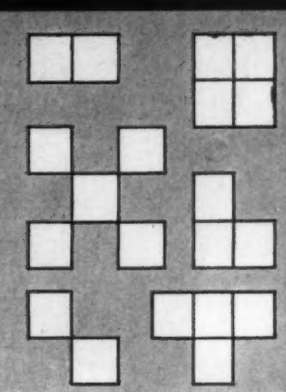


Assemble the mounting plate with drawn side toward inside of housing with the lamp socket attached to the outside of the mounting plate.

FOR 100 WATT LAMP

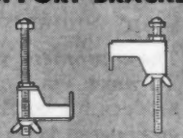


The drawn side of the mounting plate is positioned toward the inside of the housing with the lamp socket to the inside of the mounting plate.

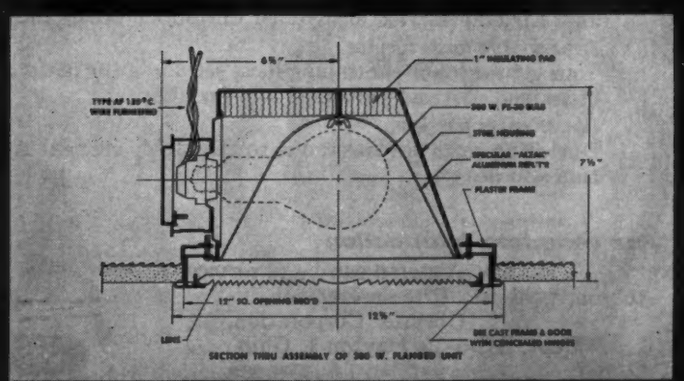


Flush type units may be grouped together forming 12" x 24" patterns; 24" x 24" patterns as well as various designs such as L's, T's, X's or V's.

NEW MOUNTING SUPPORT BRACKETS



These unique brackets are designed to permit easy, quick installation in "T" bar, "U" channel or wood frame ceiling construction. The brackets may be used with prong down or up.

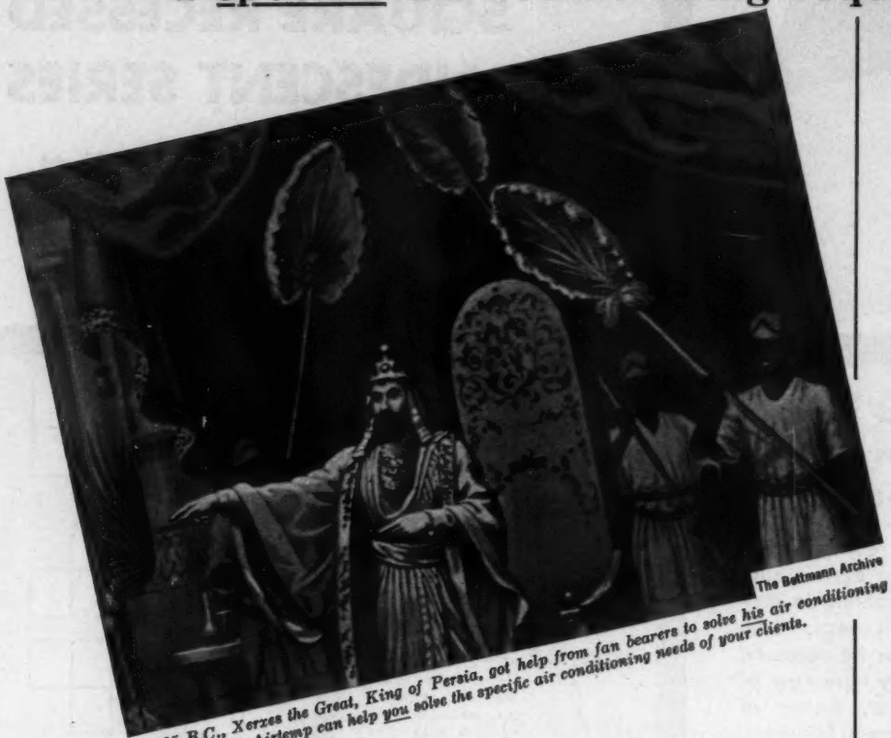


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Idaho Terrace Apartment Building, Washington, D. C. Architect: David Stern; Builder: Stern and Small; Mechanical Contractor: Leroy Mason.



Baron Hirsch Organization Synagogue, Memphis, Tenn. Architect: George Awsumb & Son; Engineers: T. J. O,Brien Engineering Co.

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AIR CONDITIONING • HEATING FOR HOMES, BUSINESS AND INDUSTRY



Corridor of Crowell-Collier building covered with "Kalistron," made by **Kalistron Division of United States Plywood Corporation,** New York 36, N. Y.

This wall beauty pays off in low maintenance

It's wall covering made of KRENE . . . with a service record of almost six years in the modern Crowell-Collier Building, New York City. Throughout the building, walls of numerous corridors, lounges and offices are finished with this luxurious, yet highly durable covering.

Service experience has been superior. According to the maintenance department "it has been a boon because it did not tear or rip if hard objects came in contact with it, or show spots from spilled soft drinks or milk."

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KRENE, of course, is extra-quality material, always tough and flexible. It resists scratches, cleaners, foods, acids, alkalies and alcohol. Specify wall coverings "made of KRENE" for assurance of unusual beauty at unusual in-service economy.

Wall covering made of KALISTRON resists chemicals and other agents common to hospital service, too. This new installation is in The University of Texas, M. D. Anderson Hospital and Tumor Institute, Texas Medical Center, Houston, Texas.



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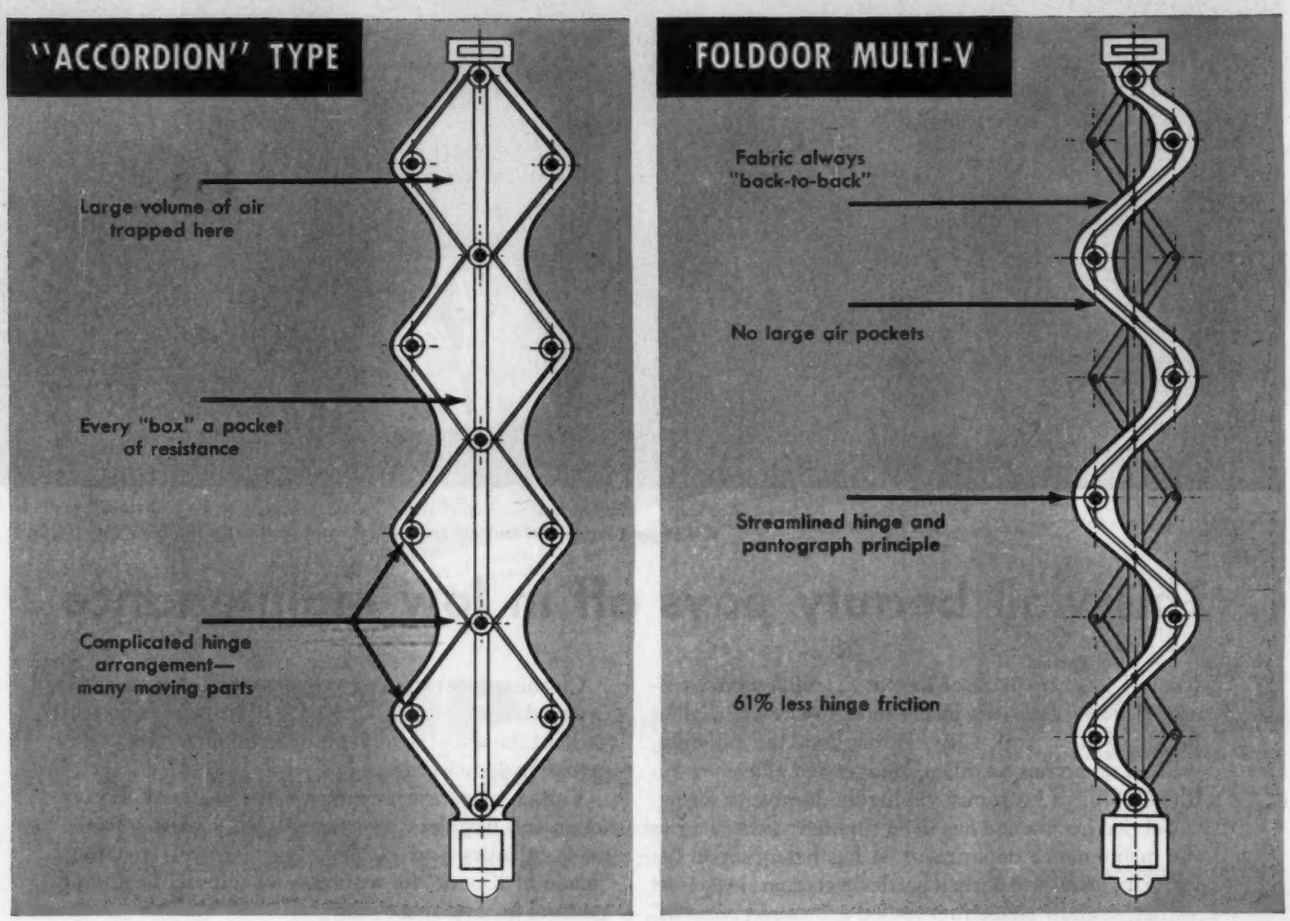
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Operates Easier...Looks Better...Lasts Longer Than Any Other Fabric-Covered Folding Door



There is a difference in fabric-covered folding doors! Only Foldoor offers Multi-V construction which provides easier operation, smarter appearance, longer life.

In direct contrast to "accordion" type doors, Foldoor is constructed in continuous volutes. The fabric coverings are back to back. There are no "pockets" to trap large volumes of air which sets up resistance, retards ease of operation.

In addition, Foldoor's simplified construction has 61 per cent less hinge friction. Yet it provides more *working* metal per foot of opening with less dead weight. What's more, the same 16-gauge hinge is standard on all Foldoors *regardless of size.* Foldoor has the narrowest profile, too—a stack width of 5½". Streamlined pantograph action lets it stack into just 1½" per foot of opening.

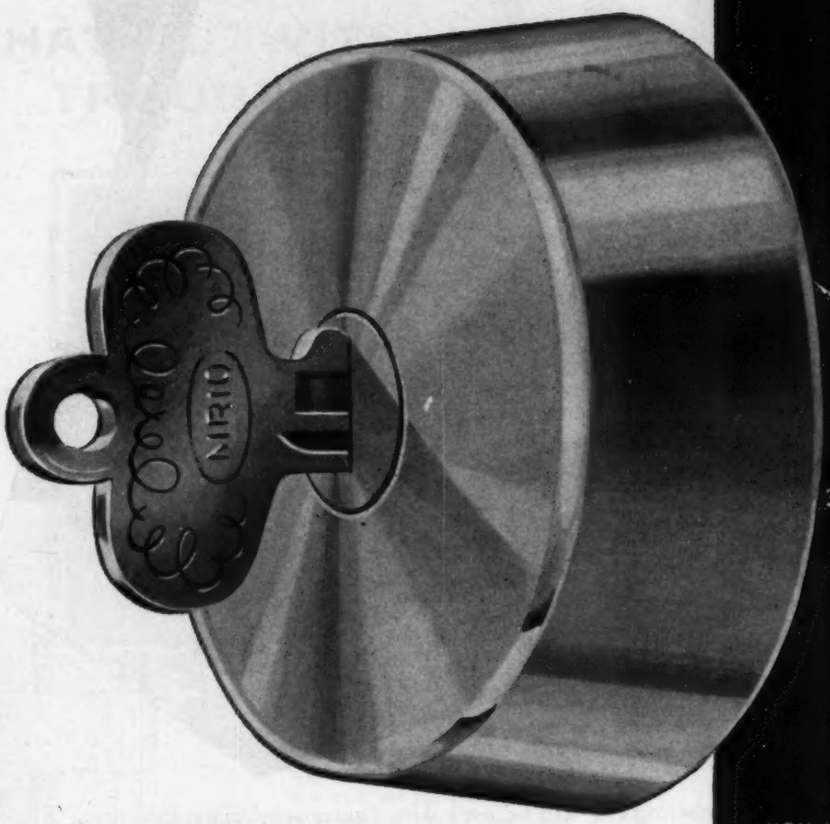
And only Foldoor offers a track truly concealed, plus an attractive cornice when desired.

There's a *big* difference in fabric-covered folding doors. You get more with Foldoor everytime. So specify Foldoor.

For further information see: Sweet's Catalog; Foldoor installing distributors in every principal city; or Holcomb & Hoke Mfg. Co., Inc., 1545 Van Buren St., Indianapolis 7, Indiana. IN CANADA: Foldoor of Canada, Montreal 26.

HOLCOMB & HOKE
FOLDOOR
THE SMARTEST THING IN DOORS
®

4 ways you can look at hardware ... of stainless steel



YOU NEVER POLISH IT
Just once-over-lightly and it's as bright and clean as new . . . it can't rust, tarnish or stain.

YOU NEVER REPLACE IT
Can't wear out, chip or crack . . . in fact, the more it's used, the more attractive it gets. Needs little maintenance.

COST IS IN LINE
with that of any other metal of similar appearance and strength.

BUILT AS YOU WANT IT
Stainless steels are easy to work with—to bend, solder and weld . . . to form and machine.

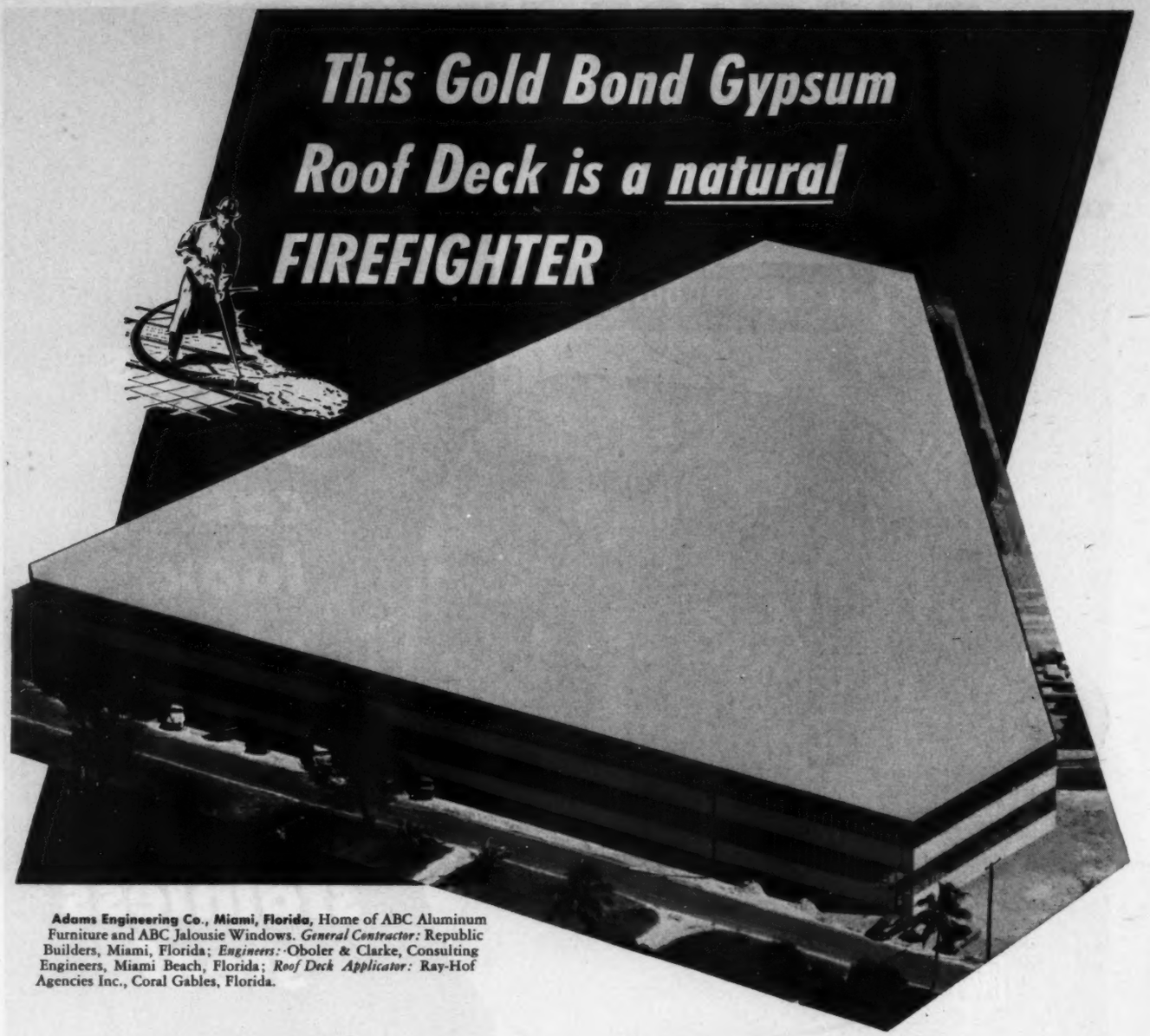
For any hardware item — from door-pulls to wall ties, escutcheon plates to finish trim — no other metal can match Crucible stainless steel for both beauty and long-term economy. For its use is well justified, not by its beauty and strength alone, but by the care, cleaning and maintenance it saves . . . throughout its service life.

Call your Crucible representative for reference information . . . or for immediate help in selecting the stainless steel designed for your specific requirements. *Crucible Steel Company of America, Henry W. Oliver Building, Pittsburgh 22, Pa.*

CRUCIBLE first name in special purpose steels

Crucible Steel Company of America

This Gold Bond Gypsum Roof Deck is a natural FIREFIGHTER



Adams Engineering Co., Miami, Florida, Home of ABC Aluminum Furniture and ABC Jalousie Windows. *General Contractor:* Republic Builders, Miami, Florida; *Engineers:* Oboler & Clarke, Consulting Engineers, Miami Beach, Florida; *Roof Deck Applicator:* Ray-Hof Agencies Inc., Coral Gables, Florida.

This new addition to Adams Engineering's Miami plant gets extra safety from fire with its Gold Bond "Firefighter" Roof Deck. Over 120,000 square feet of incombustible gypsum was poured in place to form a natural, fire-resistant cover over the entire building.

"Firefighter" Roof Decks are adaptable to all roof designs—pitched, barreled or flat. Application is fast: it takes only *one day* to pour on *as much as 30,000 square feet!* Gypsum Roof Decks can be used with lighter supporting structures because of their low dead load. This feature lowers construction costs substantially. Maintenance costs are low, monolithic gypsum decks can be easily cut or patched to meet any future design modifications.

For full details on "Firefighter" Gypsum Roof Deck, write to National Gypsum Company, Buffalo 2, New York. Ask for Technical Bulletin No. 589 AR.

NATIONAL GYPSUM COMPANY • BUFFALO 2, NEW YORK

Build better with Gold Bond . . . "FIREFIGHTER" GYPSUM ROOF DECK



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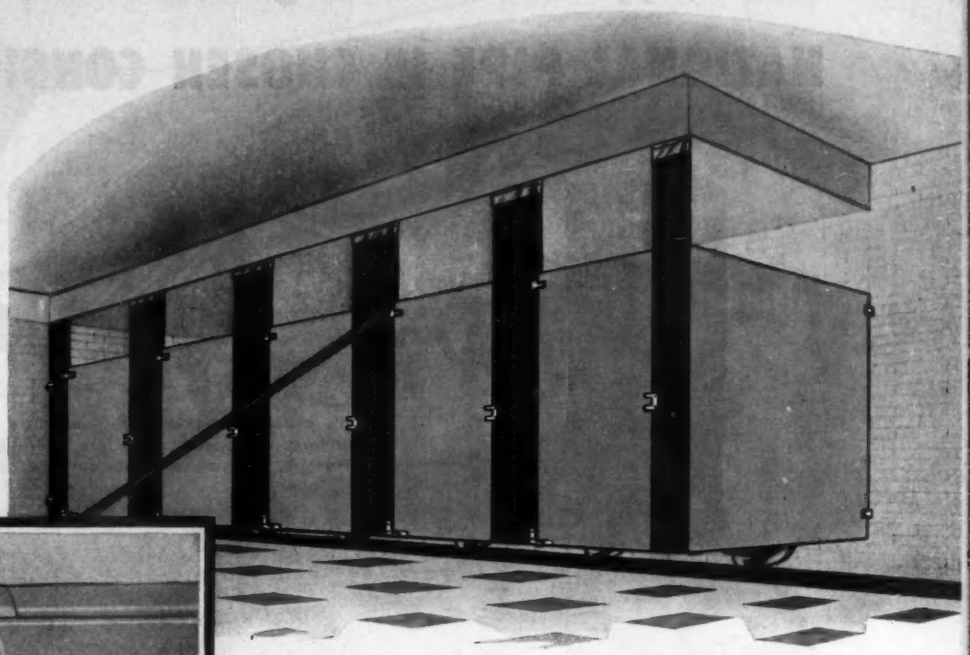
No. 2
OF A SERIES

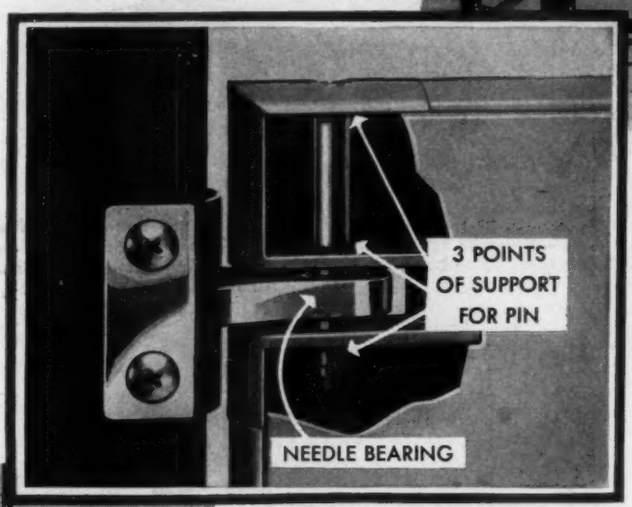
WHAT TO LOOK FOR IN QUALITY TOILET COMPARTMENT CONSTRUCTION

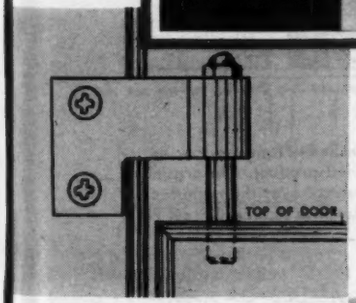
One of many major differences that give you your money's worth in satisfactory service!

The Top-Hinge Design...

THAT OUTWITS TROUBLE

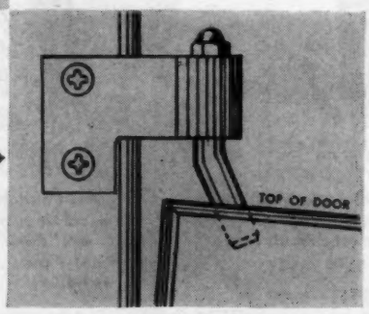






SANYMETAL'S 7700 TOP HINGE: Support of the top hinge pin at the 3 marked points prevents it from getting out of line even though a heavy man leans on the door handle, or a child or adult swings on the door. This top hinge pin operates within a needle roller bearing proved capable of 301,000 cycles of use without noticeable wear.

UT-OF-DATE design employs a cantilever principle top hinge like this. In service this hinge bends . . .



UT-OF-LINE (as shown exaggerated here) at best causing rapid wear, at worst allowing door to drop from its support.

MANY quality construction features found in *all* Sanymetal Toilet Compartments mean longer satisfactory service. These features result from Sanymetal's 41 years' experience manufacturing compartments. Be sure you get this quality.

Here is one such feature, the Sanymetal *7700 Top Hinge,* for compartment doors. Note how proper design makes this hinge so strong that it cannot get out of alignment, even if severely abused. Compared with it, ordinary hinges are outdated both in appearance, and in service life.

The many Sanymetal features explain why Sanymetal products are leaders, frequently imitated. Only Sanymetal offers all these many differences as standard without special cost. Ask your Sanymetal Representative to point out these many features of Sanymetal Quality construction.

See Sweet's or send for Catalog 92, describing all Sanymetal Compartments. If you wish, we will mail other advertisements of this series on quality construction details.

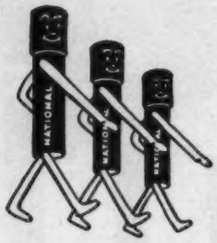
This long-life feature is **STANDARD** *at no extra cost on all types of Sanymetal Compartments.*

THE Sanymetal®
PRODUCTS COMPANY, INC.
1689 URBANA ROAD, CLEVELAND 12, OHIO

In all types of building and industrial applications...

NATIONAL PIPE IS CHOSEN CONSISTENTLY *because*—





It's uniform throughout—National Pipe is uniform in metallic structure, ductility, strength, corrosion resistance, surface finish and diameter.



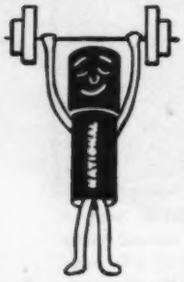
It threads and cuts easily—Absence of slag inclusions, laminations and blisters assures smooth, strong threads . . . clean cuts.



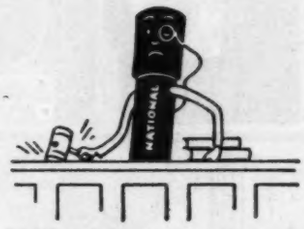
It coils and bends well—National Pipe has that extra strength and ductility so necessary to meet the demands for smooth, uniform coils and bends.



It makes sound joints—Uniformity and accuracy in manufacturing have made unequalled pipe jointing records for National Pipe . . . whether welded or threaded.



It's strong—Close metallurgical control of chemical and physical properties gives National Steel Pipe "built-in" strength.



It's rigidly controlled—From the raw material to the finished product, one organization has rigid control over the manufacturing steps that produce National Steel Pipe.



It's thoroughly tested—Each and every stage of production is carefully checked by the finest instruments . . . the most experienced men.



It's constantly improved—For over 60 years, National Steel Pipe has constantly been improved to meet the most difficult requirements.



It's gained nationwide acceptance—A cross section of industrial or building applications will show a predominant use of National Pipe . . . largest selling pipe in the world.

USS

NATIONAL TUBE DIVISION, UNITED STATES STEEL CORPORATION, PITTSBURGH, PA.

COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO, PACIFIC COAST DISTRIBUTORS • UNITED STATES STEEL EXPORT COMPANY, NEW YORK

NATIONAL *Steel* PIPE

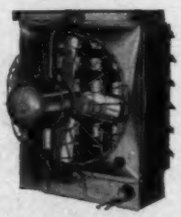
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UNITED STATES STEEL



ILG Unit Heaters

The complete line—steam, hot water, gas or electric—with capacities ranging from 18,600 to 286,000 BTU.



ILG Centrifugal Fans

Designed for a wide variety of pressure and volume requirements—certified capacities ranging from 374 CFM to 116,400 CFM.



ILG Propeller Fans

Feature ILG's self-cooled motor, direct-connected to fan wheel—assures extra quiet, low-cost operation. Sizes from 6" to 72".



FOR POSITIVE, CONTROLLED ROOF EXHAUST...

Year in, year out, rain or shine, Ilg Power Roof Ventilators are always on the job. They provide powerful, positive maintenance-free discharge of stale air or fumes. Designed to meet rigid requirements, they are ideal for the tough ventilating problems encountered in hotels, apartment buildings, office buildings and factories, large or small. The "PRV" unit shown above features a direct-connected centrifugal fan... ideal for remote roof operation with double-sealed permanently lubricated ball bearings for exhaust from vertical flues or from duct systems... no belts to use up power, wear or break. Available in 40 different capacities. Other types available meet every roof ventilator need... all are "capacity certified" in accordance with A.S.H.V.E. and PFMA test codes.

Ilg Power Roof Ventilators Require No DRIVE or BEARING Maintenance



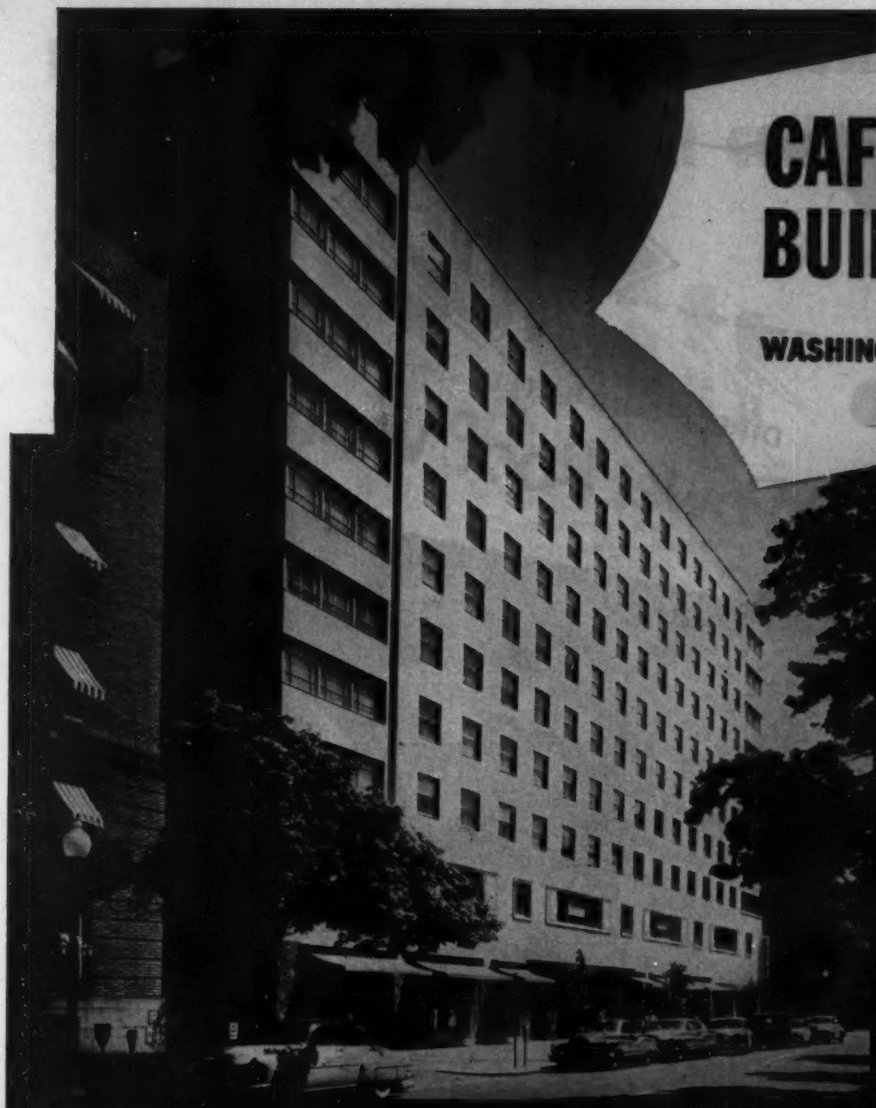
Complete Details... FREE

Write today for your free copy of this illustrated Catalog. Ask for Bulletin No. 1903.

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Offices in 57 principal U. S. cities—all principal foreign cities

CAFRITZ BUILDING gets

WASHINGTON, D. C.



LeRoy L. Werner, Architect • Beall & LeMay, Structural Engineers
Cafritz Construction Company, General Contractors

For this novel, 10-story building with parking space on each floor, architect Werner chose a reinforced concrete frame with R/C Duct Floors. In addition to the low-cost, electrical flexibility provided by R/C Duct Floors, he states that they eliminate expensive furring because piping and ductwork are readily run in spaces between the concrete joists.

R C Duct Floors provide a complete network of underfloor electrical outlets for power, light, telephone, and intercom systems—at a new low cost!

The underfloor ducts can be run at any desired spacing. Blank risers are located every two feet along their length. Electrical outlets can be connected to any of these risers in a matter of minutes without ripping up or drilling through floors and ducts.

R C Duct Floors consist of standard electrical distribution steel ducts set in *standard* reinforced concrete joist floors. No expensive fill or topping is needed. As a result, R C Duct Floors can be constructed at a considerably lower cost than cellular steel floors.

R C Duct Floors meet all building code requirements and are readily adapted to any type or shape of building. They are built with standard forms, and require no special engineering. Before you design your next building, investigate R C Duct Floors.

R/C DUCT FLOORS cost 19% less than cellular steel floors*...

CELLULAR STEEL FLOORS $3.48 per sq. ft.

R/C DUCT FLOORS $2.79 per sq. ft.

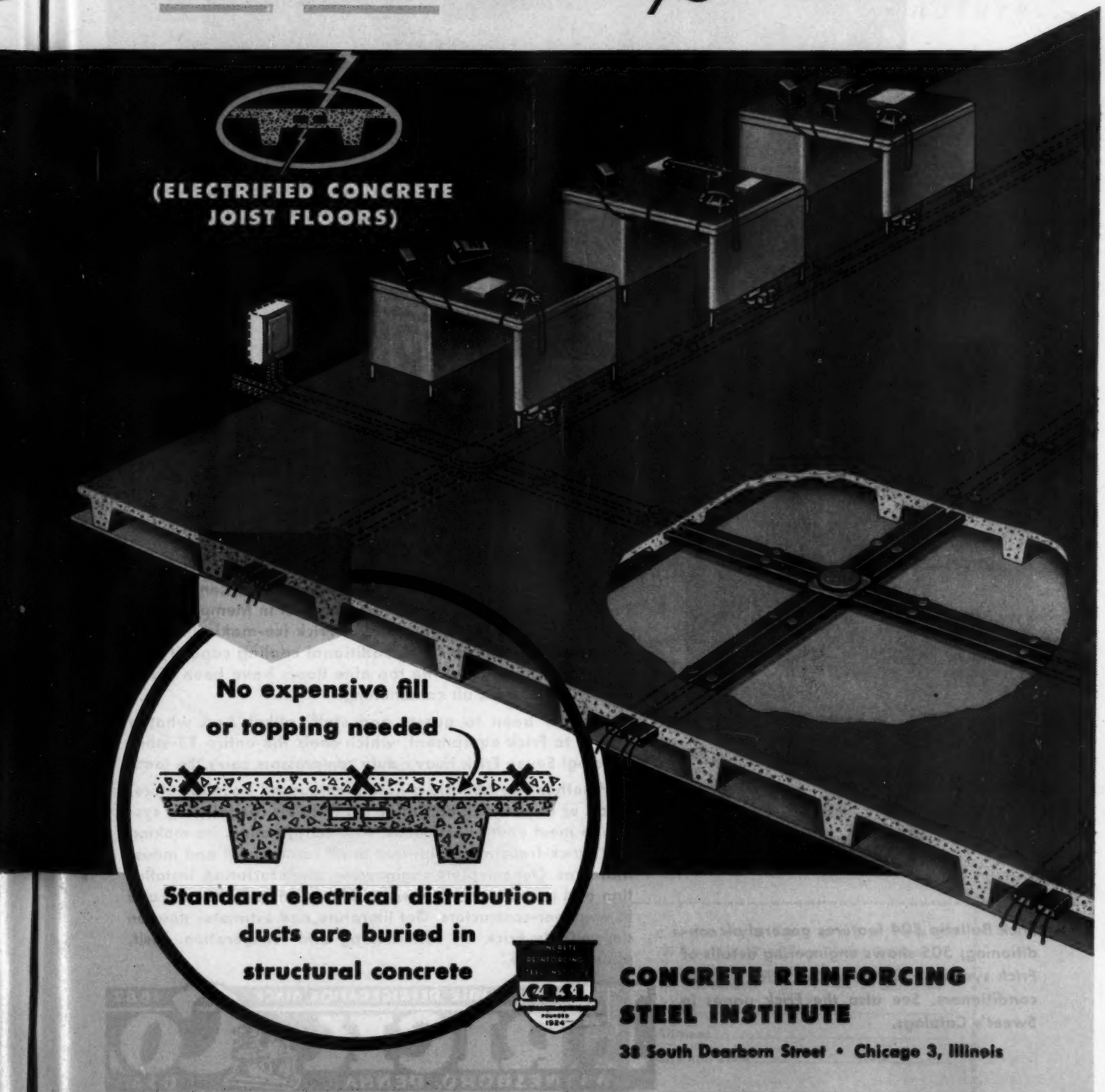
***Average costs based on current prices.**

FOR FULL DETAILS SEE PAGES 10-11, IN NEW 16-PAGE BULLETIN

SEND FOR YOUR COPY!



100% Electrical Flexibility at LOW COST with R/C DUCT FLOORS



CONCRETE REINFORCING STEEL INSTITUTE

38 South Dearborn Street • Chicago 3, Illinois





TRADE FRICK MARK®

Air Conditioning

SERVES THE CLARIDGE HOTEL AT MEMPHIS 21 YEARS!

Back in 1934 the Coffee Shop and Twentieth Century Ball Room at the Claridge were among the first in Memphis to be air conditioned. Two years later a Frick ice-making system was installed, and in 1941 additional cooling capacity for air conditioning. Now the top nine floors have been given the benefit of Frick air conditioning.

What a boon to guests and staff, alike! And what a tribute to Frick equipment, which cools the entire 15-story building! Seven Frick heavy-duty compressors carry the load.

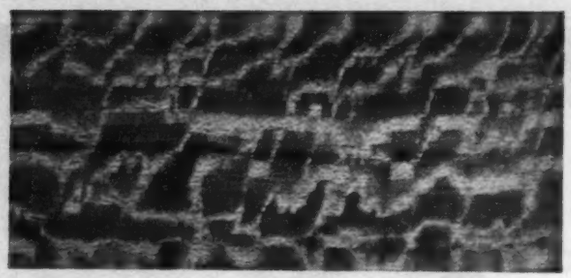
Whether you operate a hotel, restaurant, hospital, store, office, or industrial plant, there's a Frick air conditioning system to meet your exact needs. Also refrigerating, ice making and quick-freezing equipment in all commercial and industrial sizes. Our complete engineering, manufacturing, installation and maintenance service is offered alike to owners and to engineer-contractors. Get literature and estimates now on dependable Frick air conditioning and refrigeration. Visit, phone or write

Frick Bulletin 504 features general air conditioning; 505 shows engineering details of Frick systems; 522 describes Frick unit air conditioners. See also the Frick pages in Sweet's Catalogs.

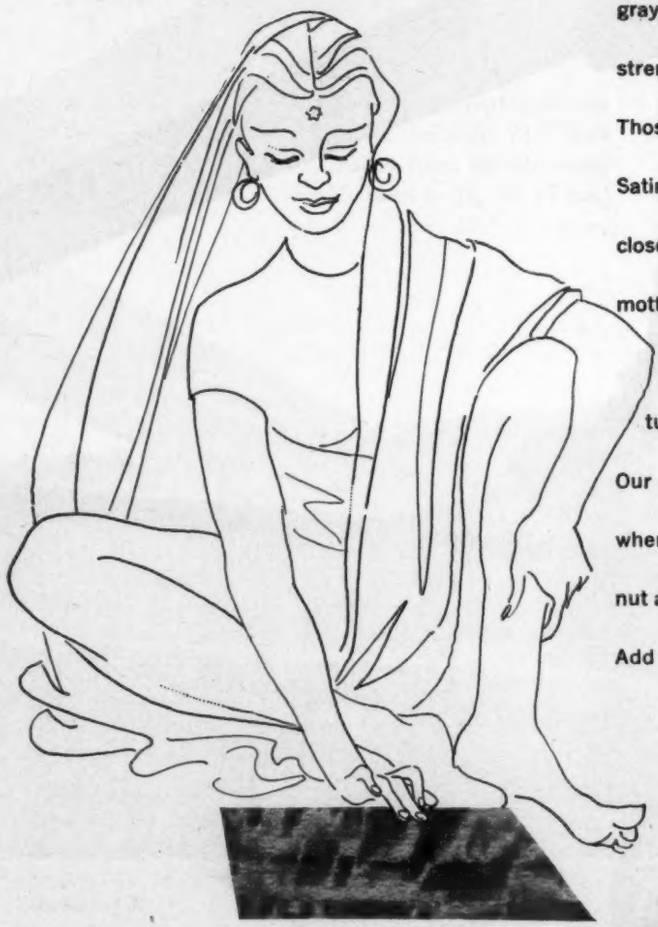
DEPENDABLE REFRIGERATION SINCE 1882

FRICK CO.

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SATINWOOD / *masterpiece of nature...*



The Queen of Woods. Smooth and lustrous as the fine satin of a Cingalese gown . . . in lambent gold—or restful grays and tans. Here is soft beauty, but also hardness, strength and great durability.

Those who specify . . . those who live with luxurious Satinwood—do so with a touch of love and pride. Its close, even texture, distinguishing ripple mark and fine mottle, make it unusually decorative. Wherever used, it carries its justification into every line of architectural design.

Our portfolio of rare woods is the most complete anywhere. Rosewood, Harewood, English Brown Oak, Butternut and Teak are in the collection of 325 grain patterns.

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Now





Schools: New Long-Span Q-Deck greatly simplifies the design of covered walkways and cantilevered canopies in modern schools, as well as allowing corridors to be included in the same span with classrooms.



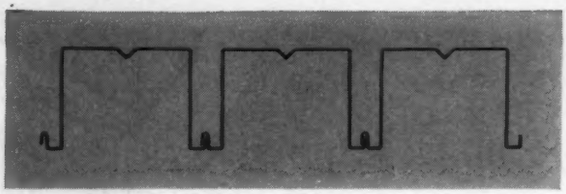
Supermarkets: As in the case of schools, much greater latitude of design is allowed by increasing deck span. Considerable saving in structural steel is made possible, and time and labor are cut down in the erection of the deck.

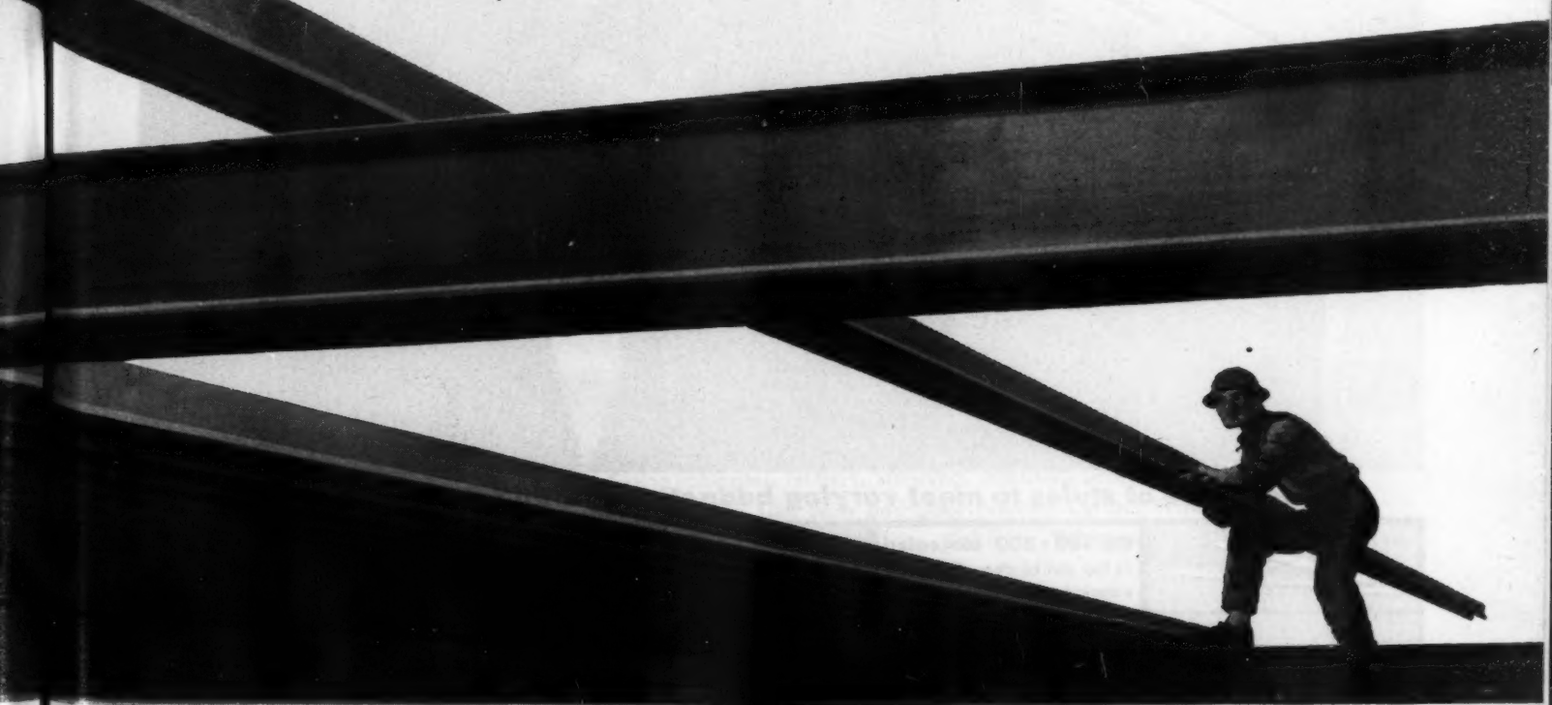
Span 32 Feet

with Robertson Long-Span Q-Deck

After considerable testing and research, H. H. Robertson Company is pleased to announce the availability of a new product much needed in modern lightweight construction—a deck which will span greater distances without loss of load-carrying capacity. New Long-Span Q-Deck, now being manufactured in quantity for the first time, carries with it all the basic quality and advantages of Robertson's famous Standard Q-Deck. Side laps become standing seams and are mechanically fastened at regular intervals for structural stability. Units are easy to handle and erect with a minimum crew. They install quickly and tightly because of precision manufacture. Long-Span Q-Deck is best adapted for use in schools, supermarkets and other building types where longer single spans indicate positive economies. Use the coupon to write for literature concerning this new Robertson product.

Individual units are 12″ wide by 7½″ high rolled from metal-coated steel in 18, 16, 14 and 12 U.S. Gage.





H. H. Robertson Company
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In Canada: Robertson-Irwin Ltd., Hamilton, Ontario
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Please send free information on Long-Span Q-Deck.

NAME TITLE

FIRM

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OVERHEAD DOOR HOLDERS



provide a cushioned stop . . .

that absorbs the shock of violent openings, avoids damage to glass, jamb, door, wall, hinges and other hardware and cuts down maintenance and repair costs.



hold the door open . . .

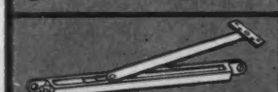
during heavy traffic—at school dismissal, factory or office "quitting" time or when the theatre lets out. Heavy wear and tear of continuous opening and closing of the door is avoided.



Wide choice of styles to meet varying budget and installation requirements.



GJ 100 • 200 concealed in top rail of door. Finest for exterior and interior doors.



GJ 90 the outstanding surface type. For exterior and interior doors.



GJ ARISTOCRAT. Most "practical" for hard usage.



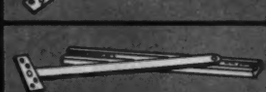
GJ 80 good quality for moderate cost installations.



GJ 70 for low cost installations.



GJ 300 Series—Friction type for interior doors. Concealed or Surface.



GJ 500 Series with shock absorber. Finest for interior doors.

specifying



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Modern Protection for Modern Homes

. . . Alodized Aluminum Siding

No. 2 in a series on protective finishes for architectural aluminum.



Photograph by courtesy of ALSCO, Akron, Ohio

Alsco Weather-Locked Aluminum Siding is Alodized for a lifetime of beauty. Alodizing converts the surface of aluminum to an inactive non-metallic, paint-holding layer. Thus, the "Alodine" protective film eliminates damage from weathering and provides a tough, durable bond for the final baked enamel finish.

What Alodizing is

AND WHY YOU SHOULD SPECIFY IT.

"Alodizing" is a process using the ACP chemical "Alodine" that converts the aluminum surface to a continuous non-metallic layer. It adds years to the metal's resistance to corrosion, and provides a perfect bond for paint, lacquer, vitreous enamel and adhesives.

One type of "Alodine" protects aluminum yet preserves the original appearance of the metal; another produces a sun-fast stable green that ranges from a grey-green iridescence to the deep patina appearance of weathered copper; still another produces an iridescent brown.

All types reduce glare and reflectivity. All add to aluminum's usefulness and durability, particularly at the seaside, in industrial areas, and in contact with mortar.

IF IT'S ALUMINUM, BE SURE IT'S ALODIZED.

CHEMICALS ACP PROCESSES

A few of the many typical building products that should be Alodized: Roofing, Siding, Shingles, Gutters, Spouting, Jalousies, Screens, Hardware, Awnings, Blinds, Wall Tile, Sash and Door Frames, Curtain Wall Panels, Partitions, Heat and Vent Ducts, Trim, Cabinets, Refrigerating and Air Conditioning Equipment, Furniture, Light Fixtures.

Write for additional information on Alodized aluminum.

Alodine Trademark Reg. U.S. Pat. Off.

Since 1914, Pioneering Research and Development in Metal Protection

AMERICAN CHEMICAL PAINT COMPANY

Ambler, Penna.

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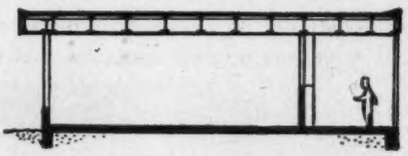
HOW STEEL JOISTS HELPED LOWER COSTS OF SCHOOL ADDITION AT DARIEN, CONN.

The new addition to the Holmes Elementary School in Darien, Conn., containing classrooms, a multi-purpose room and kitchen, is modern in every respect, but well-integrated in scale and materials with the older building. No additional ground was available for the new wing, but the architects were able to preserve most of the original play area and, by using large areas of glass, obtain maximum daylight for all rooms.

When the new wing was planned, comparative cost analyses were made of various types of construction. Based on the results of those studies, it was decided to build the addition with a structural-steel frame and open-web steel joists.

The use of Bethlehem Open-Web Joists helped to bring savings in two ways. Actual construction costs were lower because Bethlehem Joists reached the job site ready for immediate placing, without falsework. Ducts, piping and wiring could be run right through the open-webs.

In addition, Bethlehem Steel Joists contribute to keeping future maintenance at a minimum. Sturdy and rigid, these steel joists won't sag or warp, and they help promote fire-safety throughout the structure.



Architects: Ketchum, Gina and Sharp; *Consultants:* Moore and Hutchins; *Structural Engineers:* Severud-Elstad-Krueger—all of New York; *General Contractor:* Sam Grasso Co., Inc., Darien.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.
On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation

BETHLEHEM OPEN-WEB STEEL JOISTS

BETHLEHEM STEEL

VAMPCO Presents A NEW Tubular WINDOW



SERIES "T-500"

COMPLETELY WEATHER STRIPPED

•

TUBULAR SECTIONS FOR GREATER STRENGTH

•

INSIDE GLAZED WITH SNAP-ON GLAZING BEAD

•

ALL SECTIONS ⅛" MINIMUM THICKNESS

•

FORGED ALUMINUM HARDWARE

Here is the answer to several of the Architect's major problems. The VAMPCO SERIES "T-500" Window.

This series of windows provides strength with comparative lightness due to the tubular construction of the component sections. It is designed to meet the demands for the larger expanses of glass areas in modern architecture.

Ventilators are of tubular construction 1-13/16" deep with two point weather stripping. Series "T-500" windows are manufactured in standard and custom sizes—Write for catalog . . . Department AR-65.

VAMPCO®

A NAME THAT MEANS THE VERY FINEST IN LIFELONG ALUMINUM WINDOWS

VALLEY METAL PRODUCTS COMPANY

PLAINWELL MICHIGAN

A Subsidiary of Mueller Brass Co., Port Huron, Michigan

New Dawn in Building Techniques with **Permalite**®

With the new values which Permalite brings to building materials — lighter weight, greater insulation, fire resistance, good acoustical properties — architects and engineers now have the materials to realize their proudest ideas for modern lightweight design in the buildings of tomorrow. For complete, accurate, authoritative information on the many applications of Permalite, please write us.



Dependable GREAT LAKES **Permalite**®

THE LARGEST-SELLING PERLITE AGGREGATE IN THE WORLD

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Inexpensive Luxury!

that gives a hardwood floor effect at asphalt tile cost

HAKO Parquetry

If there is any place a natural wood floor effect is desired in oak, maple, walnut or mahogany at asphalt tile economy, use Parquetry. Reinforced with asbestos fibers and styrene, it has the durability needed for all types of institutional, home, and commercial installations. Parquetry is recommended for radiant heated floors and can be installed above, on, or below grade. It has quality appearance, utility, customer appeal, long life expectancy, and is easily maintained. There is no limit to the versatility of HAKO Parquetry Floor Tile.

Guaranteed by Good Housekeeping

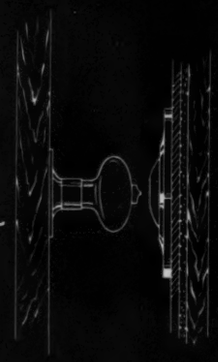
SINCE 1903

HACHMEISTER-INC.

PITTSBURGH 30, PA.

◆**FLOOR TILES**—Vinylflex, Poly-Krome in Vinyl or Asphalt, CorkAtile and Asphalt ◆**CORONET PLASTIC WALL TILES**—Majesty, Regal, Duke ◆**ADHESIVES**—for Building Products

NEW WALL U P R



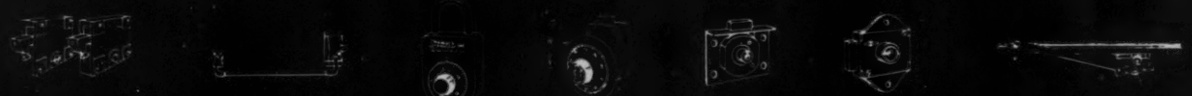


No. 3507

FOR Cylindrical Lock Sets....

A new 4" wall bumper made for cylindrical lock sets with inside set buttons. Set button enters recess in grey rubber. Body of knob takes shock. Furnished in all natural and plated finishes with wood screws, or toggle bolts.

SARGENT & GREENLEAF, INC.
ROCHESTER 21, N. Y. • SINCE 1857



PRISON LOCKS | PANIC DEVICES | COMBINATION PADLOCKS | COMBINATION LOCKS | CABINET LOCKS | LOCKER LOCKS | SASH & DOOR



Before and after Kawneer Modernization

Everlasting shopper appeal with built-in COLOR

Drab store fronts today do not pay! Customers are attracted by *colorful* Kawneer Zourite (porcelain-enameled or alumilited aluminum). It is a facing material that resists chipping, cracking and fading, providing years and years of shopper appeal. Use it as a sign backing, and as a covering for columns, pilasters, bulkheads, soffits and pylons. Plan now to remodel store fronts with practically no interference to normal operations using Kawneer Zourite, doors, store-front metal and sun-control products. See your Kawneer dealer or write for additional information.

Kawneer Aluminum Zourite Facing in ten attractive colors

- Velvet Black
- Alumilite
- Alumilite Gray
- Academy Blue
- Marine Blue
- Harvest Brown
- Spring Green
- Sunset Red
- Winter White
- Flame Orange

Kawneer
General Offices
NILES, MICHIGAN



FOLLOWS CEILING CONTOUR. Because this material is sprayed on, original ceiling designs are retained without change, as the courtroom shown above demonstrates.

Keep sound under control with Sprayed "LIMPET" Asbestos!

In courtroom, restaurant or office, Sprayed "Limpet" Asbestos really does a job of controlling sound. It works two ways: (1) It traps and dissipates sound waves through absorption in the millions of pores. (2) Its surface yields with sound waves reducing their intensity through diaphragmatic action.

VALUABLE INSULATOR. Fuel savings have amounted to as much as 50% when Sprayed "Limpet" Asbestos was applied on thin, single-layer roofs. Heated air can't leak out through this seamless insulation blanket. Cold air can't seep in through it.

FACILITATES DECORATING. The evenly textured, seamless blanket of Sprayed "Limpet" Asbestos forms a perfect base for decorative painting. Murals and stencil designs can be spray-painted where this material has been applied.

TAKES IRREGULARITIES IN STRIDE. Because it's sprayed on, you can specify it for all sorts of irregular ceilings and sidewalls. It's ideal for boiler rooms and other places where pipes, conduits, ducts, and hangers obstruct ceilings. There is no cutting or fitting required. No mechanical systems or gadgets needed for application.

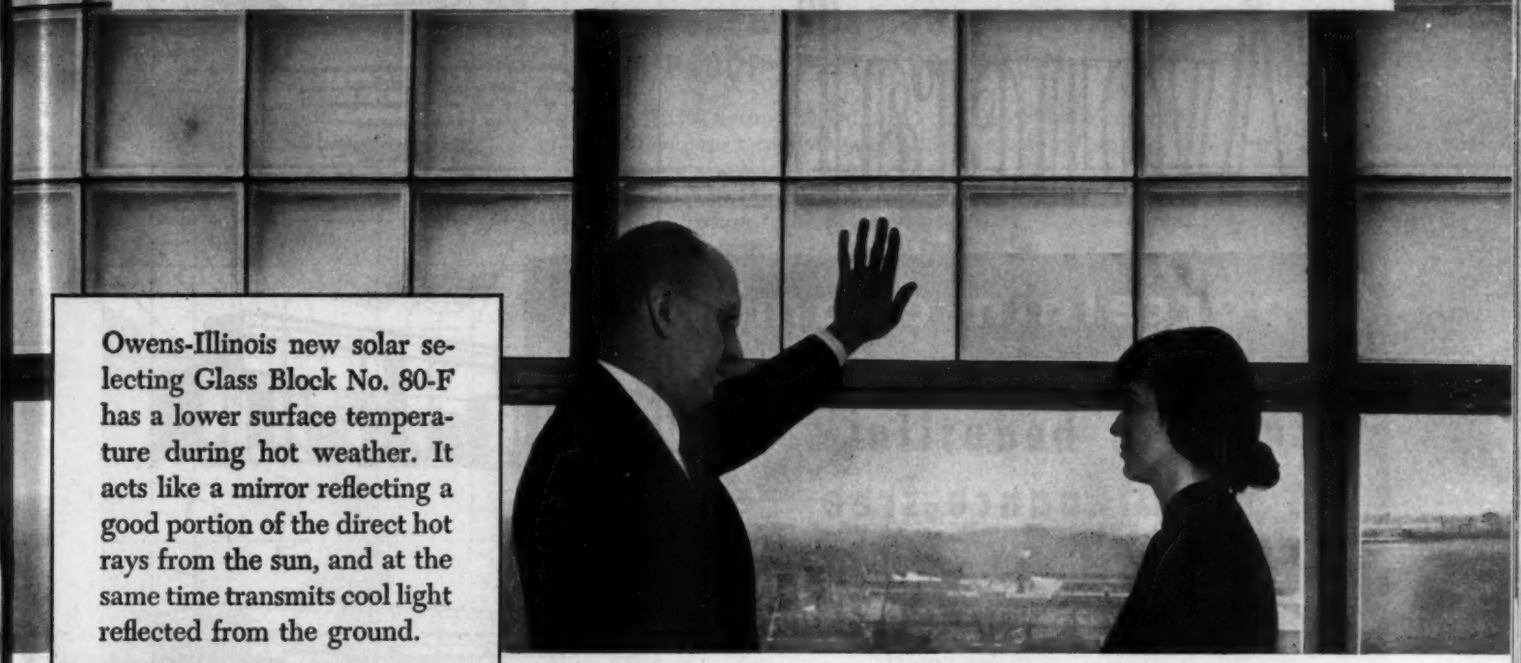
OTHER ADVANTAGES. Sprayed "Limpet" Asbestos can be applied over any surface. It is light in weight, highly fire-resistant and won't attract or harbor vermin. Its efficiency has been proved in applications all over the world.

FREE FOLDER. Write today for free folder on this outstanding acoustical control material.

KEASBEY & MATTISON
COMPANY • AMBLER • PENNSYLVANIA

K&M best in asbestos ®

Owens-Illinois' NEW SOLAR SELECTING Glass Block cooler in hot weather



Owens-Illinois new solar selecting Glass Block No. 80-F has a lower surface temperature during hot weather. It acts like a mirror reflecting a good portion of the direct hot rays from the sun, and at the same time transmits cool light reflected from the ground.



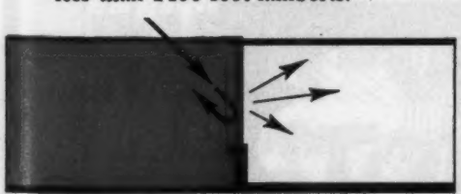
Because of its light-selecting principles this new block has a much lower surface brightness than other glass block. Maximum surface brightness as measured at the Daylighting Laboratory is less than 1400 foot-lamberts.



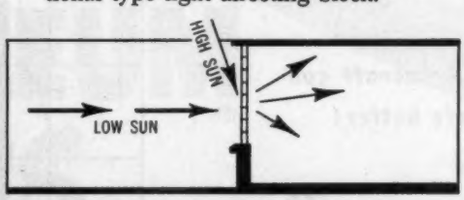
Thermocouples applied to the face of the 80-F block during hot weather (outside temperature 90°) showed that the roomside surface temperature was 14 degrees less than a conventional type light-directing block.



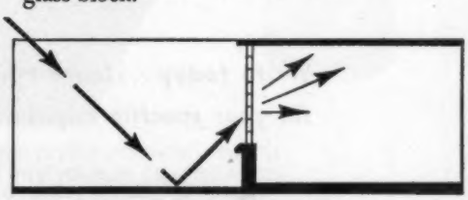
A similar test using a portable pyrometer confirmed the findings of the test using thermocouples by showing the same 14 degrees lower temperature on the roomside surface of the 80-F glass block.



Rejects hot summer sun—This diagram shows how the 80-F block reflects a major portion of the light from the sun at the critical 45° angle thus reducing brightness and solar heat transmission during hot weather.



Uniform light transmission—Prismatic design is selective and controls the amount of light transmitted from the various sun positions, thereby providing more uniform light transmission all day long.



Transmits ground-reflected light—This diagram shows how the 80-F transmits the cool light reflected from the ground. This feature is especially important when the sun is not on the fenestration.

Complete Information available

Send for the free, technical bulletin that gives the details. Just write "No. 480F" on your letterhead and mail to Kimble Glass Company, subsidiary of Owens-Illinois, Dept. AR-6, Box 1035, Toledo 1, Ohio.

OWENS-ILLINOIS GLASS BLOCK
AN (O) PRODUCT

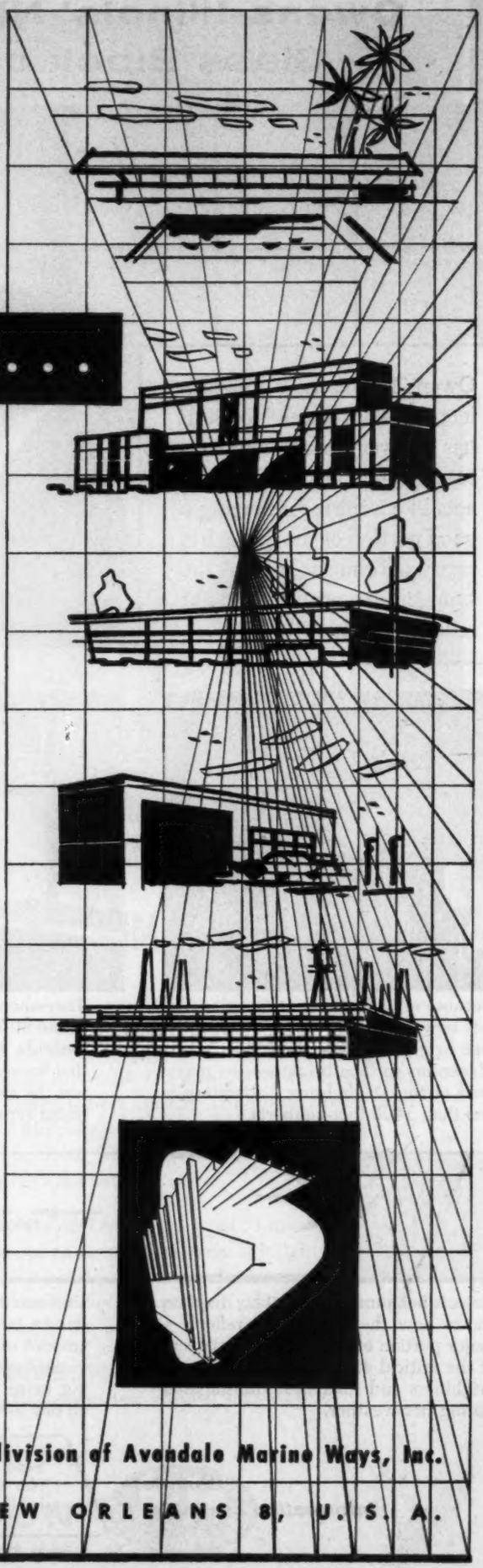
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SEE RUST-OLEUM APPLIED DIRECTLY OVER SOUND RUSTED SURFACES! MAKE THIS TEST UNDER YOUR OWN CONDITIONS AND SEE PROOF OF PERFORMANCE!

See Rust-Oleum 769 Damp-Proof Red Primer actually applied over a badly rusted surface after simple scraping and wire-brushing to remove rust scale and loose rust in the Rust-Oleum *"rusted panel demonstration."* Rust-Oleum's specially-processed fish oil vehicle *penetrates* rust to bare metal usually eliminating sandblasting and other costly surface preparations.

Rust-Oleum finish coatings in Aluminum, Green, White, Gray, Yellow, Black, Orange, Blue and others provide both *Rust Prevention* and *Decorative Beauty!* Specify Rust-Oleum for new construction, maintenance, and re-modeling. See Sweets for complete catalog and nearest Rust-Oleum Industrial Distributor, or attach coupon to your business letterhead.



See local classified telephone directory under Rust Preventives or Paints for nearest Rust-Oleum Industrial Distributor.

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STOPS RUST!



There Is Only One Rust-Oleum. It Is Distinctive as Your Own Fingerprint. Resists Rain, Sun, Fumes, Snow, Heat, Salt Air, Salt Water, etc.



ATTACH TO YOUR LETTERHEAD — MAIL TO
THE RUST-OLEUM CORPORATION
2501 OAKTON ST., EVANSTON, ILLINOIS

I want to know more about RUST-OLEUM. Send me without obligation a FREE sample. I intend to test it ☐ indoors; ☐ outdoors; on ☐ wood; ☐ rusted metal; ☐ clean metal; ☐ brick; ☐ concrete; ☐ stucco;

.....

(State on the above line object or structure such as tractor, tank, fence, metal sash, roof, floors, walls, etc.)

Subject to special conditions: ☐ weather; ☐ humidity; ☐ fumes; ☐ brine; ☐ dampness.

☐ I have a chain-link fence. Please send full information on RUST-OLEUM's new Roller Method that cuts re-coating costs.

☐ Send Complete Catalog with Color Guide

Please be sure to indicate Color Preference Here

☐ Have Qualified Representative Call

NOTE: We want to supply you with the correct sample for your test. Please be sure to check off all appropriate information about your problem.

WHY THE

Wm. F. Zeller Co., Inc.,

SHEET METAL CONTRACTOR OF BALTIMORE, MD., HAS USED

Revere Sheet Copper EXCLUSIVELY for 50 YEARS!

The Wm. F. Zeller Co., Inc. has been doing business in the same location for over 50 years. During that time it has built up an enviable reputation for its fine artistry and quality workmanship in the erection of many noted Baltimore landmarks.

When asked why his firm gets all of its sheet copper from Revere, Earl Zeller, President, said, "There are four reasons.—First, we have found over the years that we can always rely on the fine quality and uniform gauge of the sheets ordered. Second, the good delivery service. Third, the name Revere is so widely known and accepted that it adds prestige to our operation, and fourth, Revere's Technical Advisors. They are a great help when we are planning many of our more difficult jobs. Many a time their suggestions have resulted not only in our saving time and material, but in a more efficient installation as well.

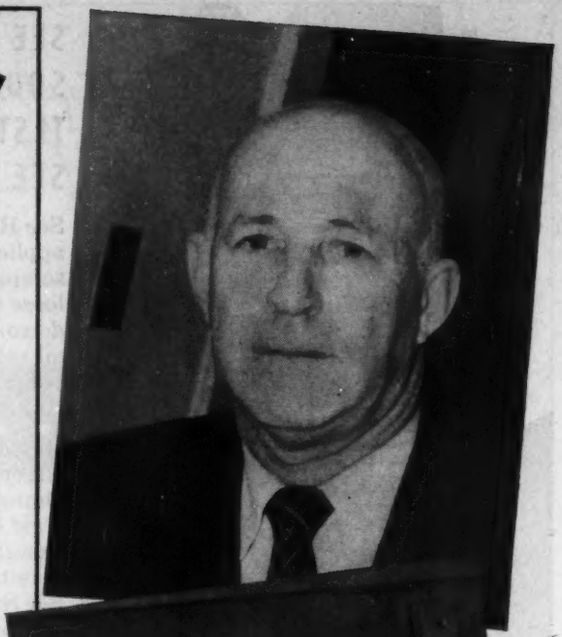
"Even when copper was in short supply some years back we preferred to go along with Revere rather than change our source of supply, and believe me it paid off, because we've never had a complaint about materials.

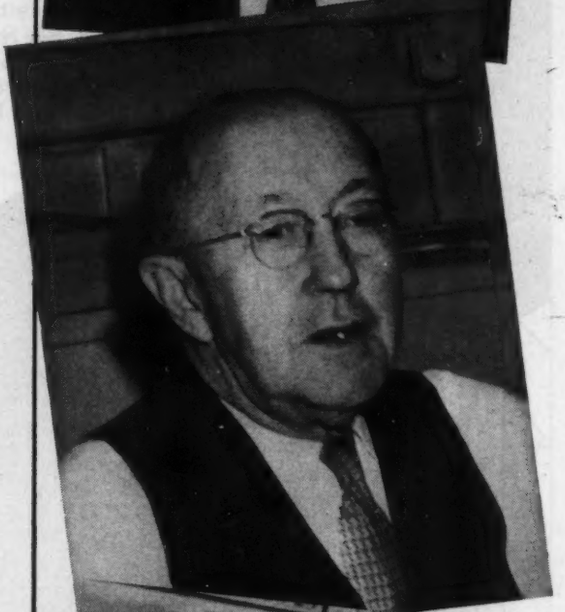
"And as far as copper itself is concerned we prefer it to any other metal to work with. It is easy to solder, shape and cut. And as every sheet metal man knows, copper is the only metal to use on buildings that are built to last."

Guard *your* reputation...keep out of trouble...insist on enduring, non-rusting Revere Copper of uniform quality. And if you have problems regarding the application of Revere Copper, get in touch with our Technical Advisory Service. It is backed by more than a century and a half of experience in working with sheet copper.



WING OF ST. MARY'S SEMINARY, Baltimore, Md., where the WM. F. ZELLER CO., INC. recently installed some 17,000 lbs. of Revere Leadtex 16 and 20 oz. copper in the form of flashing, gutters and leaders. Revere Distributors: CLENDENIN BROS., General Contractor: THE E. EYRING & SONS COMPANY; both of Baltimore. Architects: MAGINNIS and WALSH and KENNEDY, Boston. It is one of the hundreds of buildings on which the Zeller Co. has installed Revere Copper during its more than 50 years in business.







(From top to bottom): John H. Gunther, Exec. V. P.; Harry C. Guenther, Sec. and Treas.; Earl E. Zeller, President.

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

230 Park Avenue, New York 17, N. Y.

• • •

Mills: Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y.
Sales Offices in Principal Cities, Distributors Everywhere.



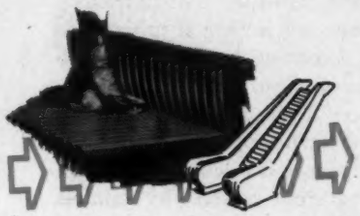
traffic speeding elevator doors

It doesn't make good sense to combine high speed elevators with slow closing hoistway and elevator car doors. Seconds saved at each elevator stop can add up to hours of faster service in a busy building. Only Otis Electronic Elevator Doors—***with the electronic zone of detection***—have been designed to encourage people to step livelier—***and speed traffic!***



unmatched elevator door safety

It's always well to remember that every elevator entrance has two doors. First, the hoistway door; and second, the elevator car door. This is of utmost importance, because passengers in high speed operatorless elevators should always be protected from both doors—***for the highest degree of safety!*** Only Otis Electronic Elevator Doors ***with the electronic zone of detection*** (as illustrated in phantom) provide double-door protection—as described in Otis booklet B-807. This unmatched safety—***obtainable only with completely automatic AUTOTRONIC elevators***—is available at only slightly extra cost above such standard equipment as rubber-edged contact doors, electric rays, and single-door protection.



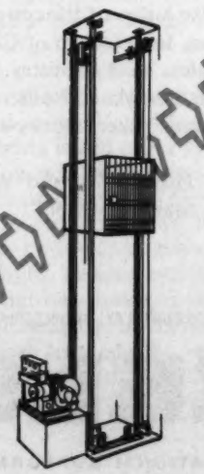
stepping safely with style

Because those floppy new plastic women's overshoes can—***and sometimes do***—get stuck between the steps of escalators, Otis engineers have come up with a new safety step. It's cleated in a way to prevent such a mishap. It's now available for new installations.



more flexibility in planning

Electric dumbwaiters can be located almost anywhere—directly at the point of needed service, or away from heavy traffic, or in protected areas to prevent pilferage. They impose only light loads on the building structure. They're available for low-rise, multi-story and undercounter use with lifting capacities up to 500 pounds and automatic operation—as described in Otis Dumbwaiter booklets B-453 and A-380.



save costly building alterations

Otis Light Duty freight elevators have a semi self-supporting framework that permits installation in new and existing hoistways without reinforcing the building, or adding overhead supports, or building a penthouse. They can be used for any rise up to 35 feet at a speed of 25 feet per minute with lifting capacities of 1,500, 2,000 and 2,500 pounds. They're described in Otis booklet B-720.

OTIS ELEVATOR COMPANY, 260 11th Ave., New York 1, N.Y.

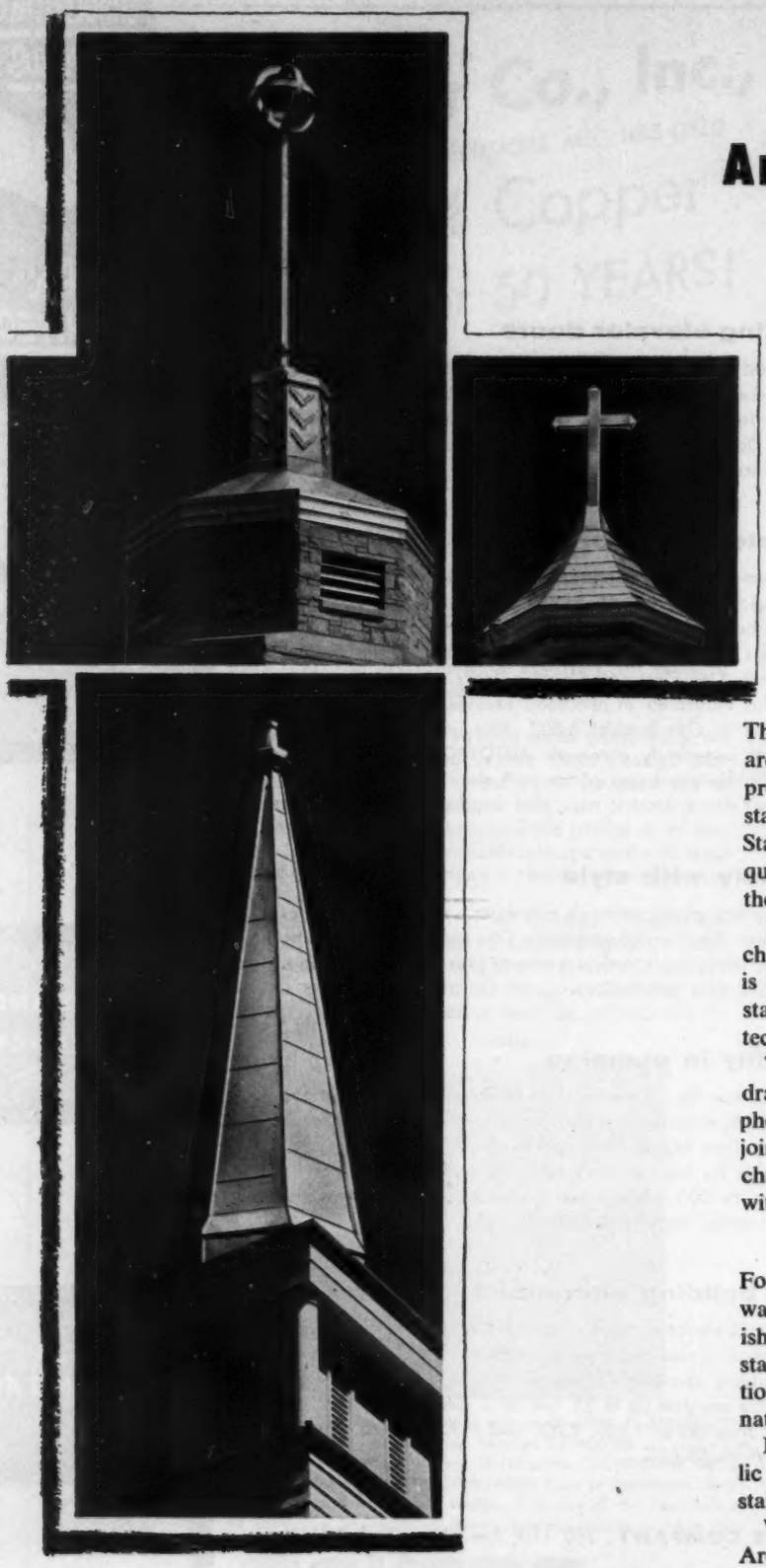
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directional arrows

for ARCHITECTS

- PASSENGER ELEVATORS
- ESCALATORS
- FREIGHT ELEVATORS
- CARS AND ENTRANCES
- DUMBWAITERS
- MODERNIZATION
- MAINTENANCE

Otis



Armco Stainless Steel

goes to church

The spire and cross or finial of traditional church architecture always have presented a maintenance problem. Many churches are solving it today with stainless steel. Properly constructed crosses of Armco Stainless Steel, and spires sheathed in stainless require little maintenance. They eliminate need for the rare and expensive steeplejack.

Freedom from maintenance is essential in modern church architecture. That's one reason why stainless is moving in. And besides, the soft neutral tone of stainless steel harmonizes perfectly with any architectural design or color scheme.

These advantages apply to stainless steel roof drainage as well. It is practically immune to atmospheric corrosion. There is no patina to discolor adjoining areas. Stainless resists extreme temperature changes and withstands heavy snow and ice loads without cracking.

INTERIOR USES

For the church interior, there is stainless steel hardware. Doorknobs and switch plates require no polishing. Kitchens with sinks and work surfaces of stainless steel are easy for the ladies of the congregation to clean and keep clean. In a suburb of Cincinnati there is a welded stainless steel baptistry.

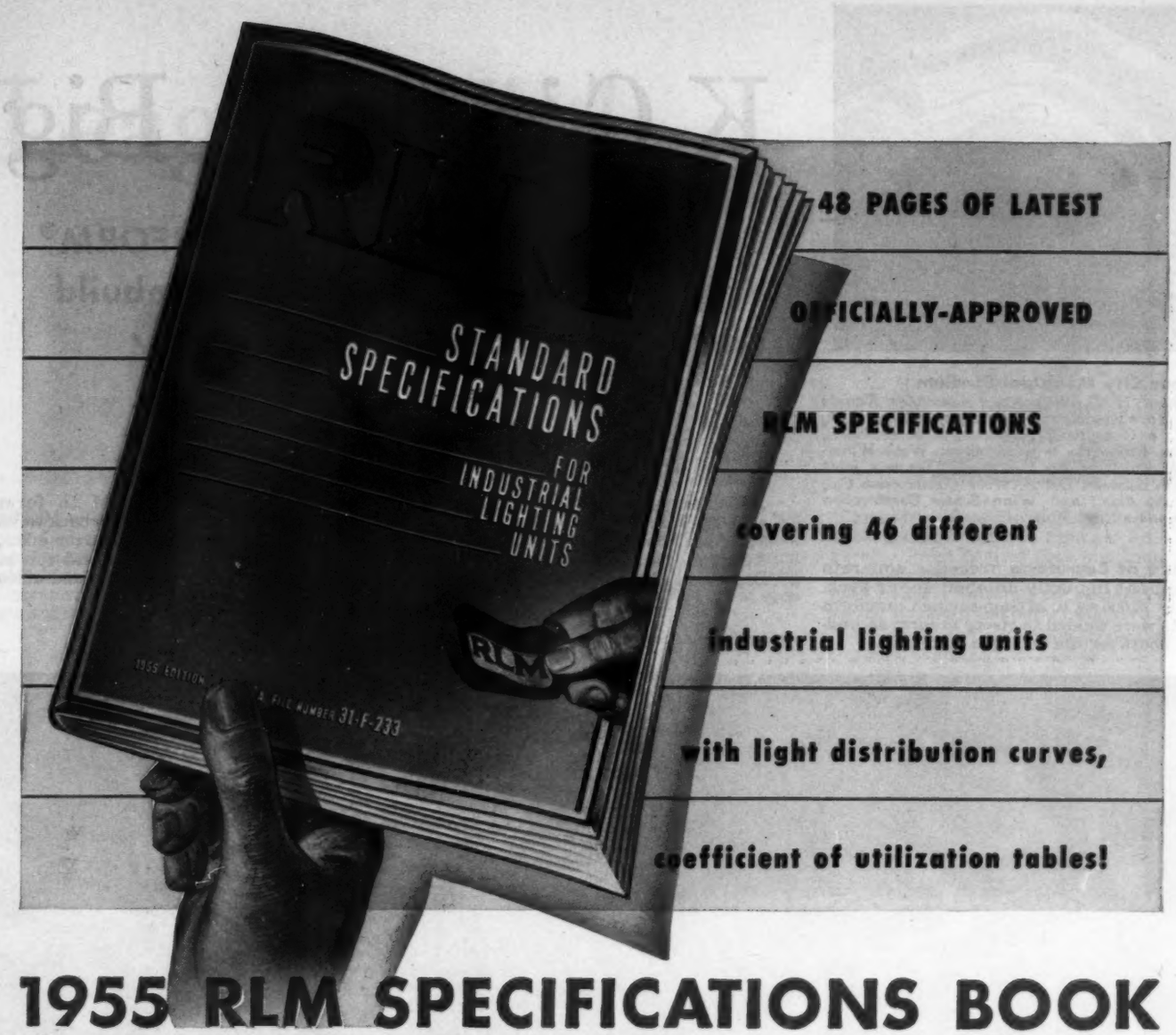
In churches as well as in schools and other public buildings, there are many other money-saving stainless steel applications.

Write for our folder, "How, Why and Where Architects Specify Armco Stainless Steel."

ARMCO STEEL CORPORATION 1275 CURTIS ST., MIDDLETOWN, OHIO

SPECIAL STEELS

SHEFFIELD STEEL DIVISION • ARMCO DRAINAGE & METAL PRODUCTS, INC. • ARMCO INTERNATIONAL CORPORATION



1955 RLM SPECIFICATIONS BOOK

Complimentary Copies Now Available... Get Complete Details on

12 ADVANCEMENTS IN INDUSTRIAL LIGHTING!

Today, specification of industrial lighting units bearing the RLM Label is more important than ever. When you get your copy of the new 1955 Edition RLM Specifications Book and read more about the twelve advancements listed here, you will see why. You will read how these advancements improve overall efficiency up to 5%; relieve brightness contrast two ways; reduce glare; reduce light losses; provide greater ease of maintenance and safety from electrical hazards; make installation easier and less costly; reduce the amount of trapped light; reduce lamp failures; prolong life of unit.

In addition, you will find many helpful tips on lighting equipment specifications in the expanded introductory pages. Here you will also find many of the "hidden benefits" of the new advancements in RLM Specifications. If your work is at all concerned with industrial lighting equipment, you should not be without this valuable reference work.

Your copy of the 1955 RLM Specifications Book is available without cost or obligation. Please address request on your letterhead to:

RLM Standards Institute, Suite 827, 326 W. Madison St., Chicago 6, Ill.



R846



Kansas City Municipal Stadium
Architect: *H. L. Wagner and Associates, Kansas City, Mo.* • Engineer: *Victor Mayper, New York, N. Y.* • Consulting Engineer; *S. J. Callahan, Kansas City, Mo.* • Contractor: *Webb-Winn-Senter, Kansas City, Missouri.* (This is a joint venture between *Del E. Webb Construction Co., Phoenix, Ariz.*, and *Winn-Senter Construction Co., Kansas City, Mo.*)

Placing of Corruform precedes concrete placement in partly finished upper deck. Nearly 70,000 sq. ft. of time-saving Corruform sheets were welded to risers to form second-deck floors for the enlarged stadium.

K.C.'s First Big

COFAR,® ROOF DECK & CORRUFORM® Help K.C. Win 96-Day Race to Rebuild Baseball Stadium by Opening Day

JOB: Start Jan. 6, 1955, and rush rebuild a 17,000-seat single-deck stadium to a 34,000-seat double-deck stadium meeting American League standards by Opening Day, April 12, 1955—a period of 96 days.

SOLUTION: CORRUFORM to form floors between risers . . . and on back walls of press boxes; ROOF DECK over office, concourse, press boxes, back-seat row in upper deck; COFAR on ramps and office and concourse floors.



League Win!



RESULT: "We had to guarantee the American League a stadium that meets Big League specifications and have it ready to play baseball April 12. Thanks to Cofar and Corruform, we will meet the deadline and stay within our budget as well."

J. L. Neville, *Project Engineer*



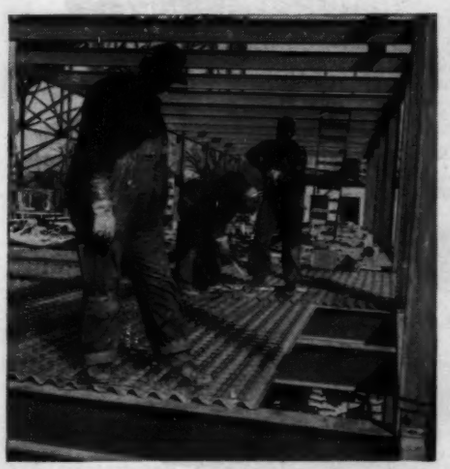
"Each hour was important on this job. We couldn't have done it without Cofar, Roof Deck and Corruform. They're perfect from every angle—speed of construction, strong working platform, economy. I've never seen construction go faster."

Arthur Row, *General Superintendent*



"Corruform, Roof Deck and Cofar are the finest products for this type project. Cofar saved a great deal of time and money by eliminating forms and stripping. Also, Cofar gave us clear working area below because we did not need temporary supports."

Fred Kuentz, *Project Manager*



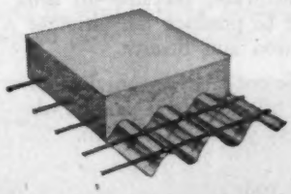
Cofar for Concourse Floors. Webb-Winn-Senter speeded the casting of concrete floors by using Cofar which acts as a deck for workmen, a form for wet concrete, and as reinforcing when the slab sets.



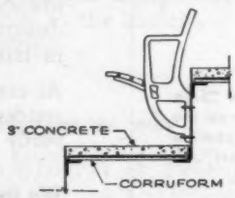
Corruform between Risers. The 100,000 psi steel made both concrete base and working platform, kept laying crews well ahead of concreting. Hot-dip galvanized Corruform was vinyl primed for painting.



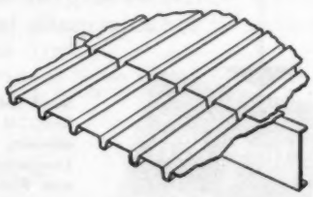
Granco Steel Roof Deck formed concourse roof and decorative curtain wall behind upper-deck rear seats. Wide sheets meant fewer laps, greater roof strength and safety, time saved in placing and welding.



Cofar is extra-strong, cold-reduced, hot-dip galvanized steel. It makes a tight form for wet concrete, provides full positive reinforcing. Welded transverse wires give full temperature reinforcing plus mechanical anchorage between concrete and steel.



Corruform forms tight, solid base for wet concrete, gives a definite concrete saving at no sacrifice to slab design. Corruform remains in place, eliminates the nearly impossible job of stripping. Mesh laid over high-tensile steel sheets reinforces slabs.



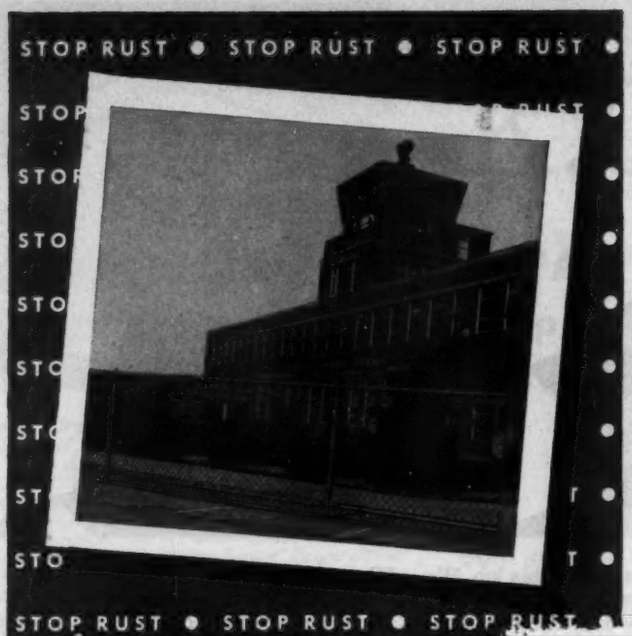
Granco Roof Deck is rotary-press formed steel with baked-on, rust-resistant alkyd finish. Each sheet is shaped for maximum strength and perfect nesting, covers 25 to 35 sq. ft. for fast placement, has 28¾" width to reduce laps to a minimum.

GRANCO STEEL PRODUCTS CO.

A Subsidiary of GRANITE CITY STEEL COMPANY

Main Office: Granite City, Illinois • Distributors in principal cities

see our catalog in S or write for copy



* Hot-Dip Galvanized

Corrosion is costing the United States over five billion dollars a year, according to figures recently released. Companies today are taking a hard look at rust prevention costs. They are finding that Hot-Dip Galvanizing is the best solution to their problems. They know that items like chain-link fence, roofing, gutters, window sash, and many others will last longer if Hot-Dip Galvanized after fabrication. Over a period of years maintenance costs are kept to a minimum.

When you specify rust protection for your new buildings, specify Hot-Dip Galvanizing, the best rust protection you can buy. For the best in Galvanizing, have your products sent to a member of the AMERICAN HOT DIP GALVANIZERS ASSOCIATION—he has the know-how to give you a top quality job.



Send today for our new booklet "Stop Rust." It gives you the full story on the process, plus a comprehensive coating comparison chart. "Must It Rust" 16 mm film available for showing.

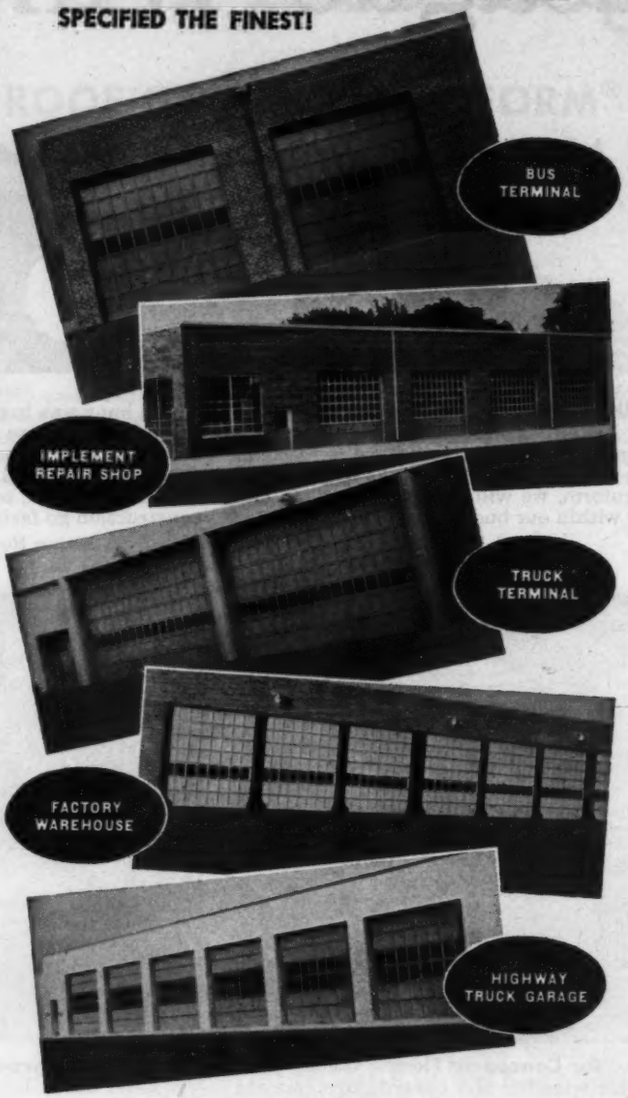
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This G-E development engineer is testing a ballast design for a new fluorescent application. He's a member of the largest ballast development group in the industry. The fundamental research which they perform is one important reason why G.E. is the leading supplier of fluorescent ballasts.

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General Electric's design leadership has contributed greatly to the vast fund of knowledge now available and being used by the entire ballast industry.

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A G-E ballast tag or sticker on your fixture is proof that it's equipped with the best in ballast value. It's the only way to be certain. For further information on G-E ballasts, write Section 401-15, General Electric Co., Schenectady 5, New York.

*Miss Fluorescent Ballast, G. E.'s Ballast Mascot

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USER SATISFACTION gets foremost consideration by G-E ballast development engineers. Here a ballast is being checked to make sure it will provide optimum light output and lamp life.

Five more reasons why

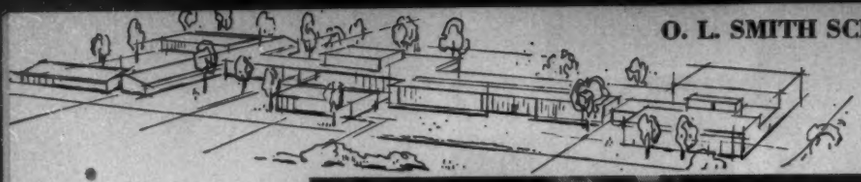
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O. L. SMITH SCHOOL, Dearborn, Michigan

Architect: **Jahr-Anderson, Inc.**
General Contractor: **A. W. Kutsche & Co.**
Acoustical Contractor: **Detroit Acoustical Contracting Co.**



Quiet helps concentration in the school library. The attractive ceiling of Armstrong Travertone soaks up noise, helps promote a relaxing atmosphere for study or casual reading. Completely incombustible, Travertone adds an important measure of fire safety, too.

V-shape acoustical ceilings aid lighting in new school

Imaginative planning and modern materials help promote natural lighting in the O. L. Smith School in Dearborn, Michigan. Of special importance to the lighting plan are V-shaped ceilings, covered with Armstrong acoustical materials.

The ceilings' V-shape reflects light both from the huge outside windows and from the clerestory windows on the corridor side of the school. The smooth, white paint finish of the acoustical tile helps diffuse the light evenly without annoying glare. In addition, the inside of the V-shaped acoustical ceilings also serves as a chase for concealed piping, wirings, and ducts.

Ceilings of Armstrong Travertone were used to sound condition the office and library where appearance was as important as acoustical efficiency. This efficient noise muffler soaks up as much as 80% of the sound that strikes it and adds beauty with its smartly fissured surface. Travertone is easily installed by conventional cement or suspension methods.

The large hall and classroom areas called for low-cost acoustical ceilings of Armstrong Cushiontone. A perforated wood fiber material, Cushiontone is inexpensive to install and easy to maintain. To quiet the cafeteria's serving area, Armstrong Arrestone, an easy-to-clean metal pan unit, was used.

Get full details on the entire line of Armstrong sound-conditioning materials from your local Armstrong Acoustical Contractor. For your free copy of the new 1955 edition of "Armstrong Acoustical Materials," write Armstrong Cork Company, 4206 Rock Street, Lancaster, Pa.

Armstrong

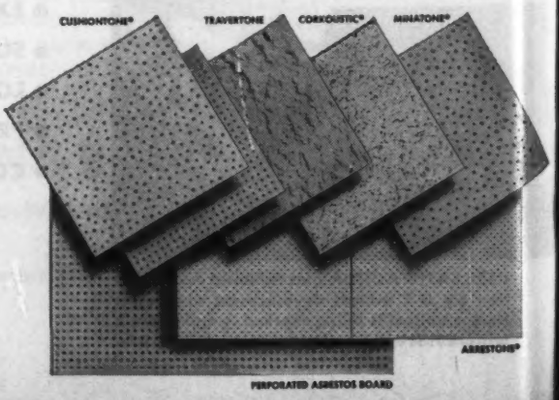
ACOUSTICAL MATERIALS

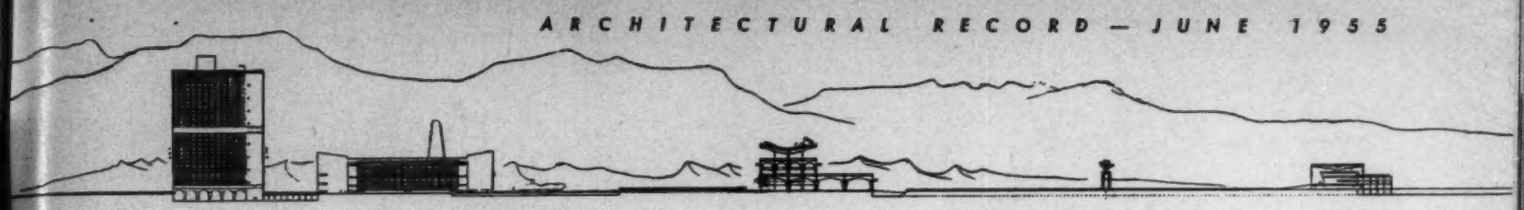
Cushiontone® Travertone* Arrestone® Minatone®
Corkoustic® Perforated Asbestos Board

* TRADE-MARK



The handsome, Full Random pattern of perforations gives this Cushiontone ceiling an unbroken, monolithic appearance. Armstrong Cushiontone in the music room reduces the reverberation of sound and assures proper acoustics for band practice. Cushiontone can be washed or repainted whenever necessary without losing its high noise-absorbing efficiency.





CHANDIGARH—NEW CAPITAL CITY

by E. Maxwell Fry, C.B.E., F.R.I.B.A.

After preliminary designs for Chandigarh, new capital of the East Punjab in India, had been completed, the Indian government shifted from American architect-planners, Mayer & Whittlesey, to a European team: Maxwell Fry and his wife, Jane Drew; Le Corbusier and Pierre Jeanneret. Albert Mayer had headed the preliminary work, aided by — among others — Matthew Nowicki, whose proposals and tragic death en route from India to America were described in ARCHITECTURAL RECORD (Sept., 1954) by Lewis Mumford. Below, Fry describes what is actually being built. Of the Mayer plan Fry says: "Albert Mayer's pilot plan was a very fine job; but he, along with us all in the early discussions over the final plan, yielded to Le Corbusier's deeply based arguments and to the relentless pressure of his personality, and what went forward had his agreement too."

JUST AS A NEW HOUSE offers the opportunity of solving again the recurring problem of how a family shall live, and does in fact successively modify the living habits of succeeding generations, so the building of a new city on an open site raises the hope that the evils of city life — congestion, dislocation, incoherence, unsocialness, ugliness and boredom — will be replaced by an organisation responding more closely to human needs and aspirations.

To cure these evils in existing cities has involved costly techniques, and none more so than Le Corbusier's proposals embodied in his *Ville Radieuse* in which congestion is overcome by skyscraper concentrations of population, and dislocation by the carrying of fast-moving traffic on elevated highways leaving the ground free for pedestrian use.

Both these solutions are drawn from the heart of city congestion and both presuppose a high level of general wealth and industrial technique, because it is obvious that vertical circulation costs more than horizontal, and roads built up in the air are more expensive than roads on the ground.

At Chandigarh, a capital city built on flat ground for an impoverished Indian state, there existed neither the money nor the necessary technique to carry out such a solution, and the fact that the Chandigarh plan can be shown to meet the pressures of city life without destroying the delicate coherence of society, or degrading the pedestrian to the level of a hunted animal, is the measure of its contribution to planning.

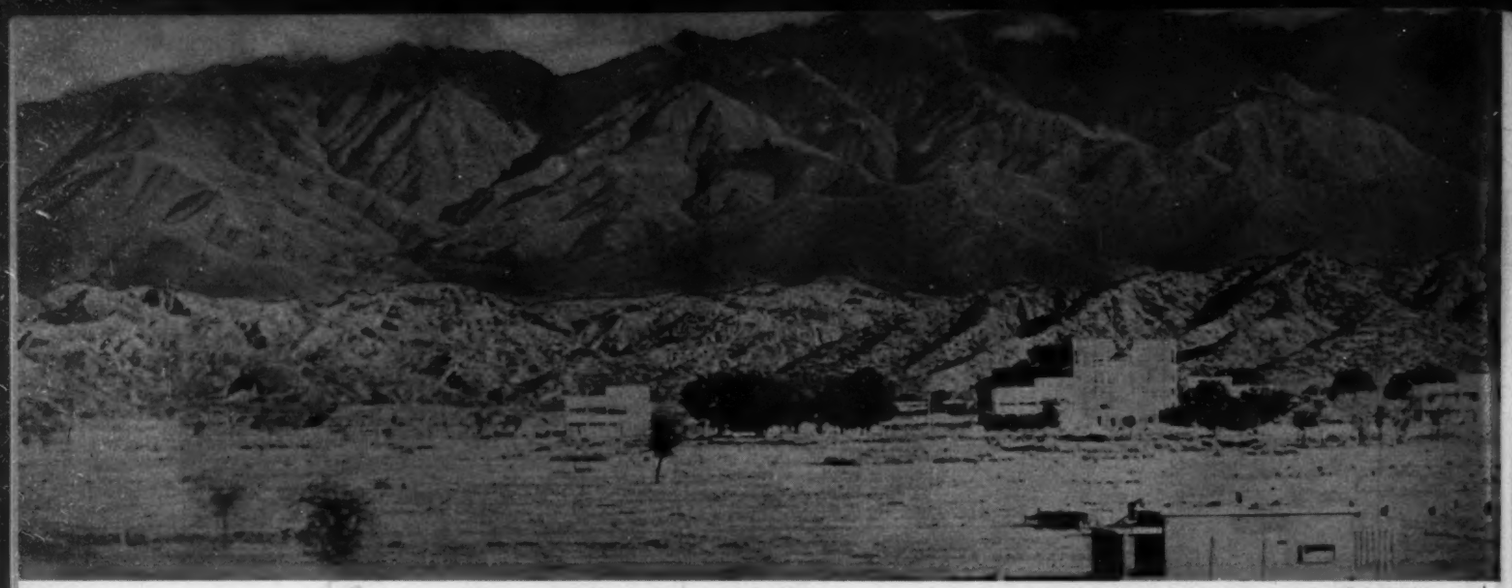
What struck me in working alongside Le Corbusier — working with being next to impossible — is his capacity for using creatively the fruits of cool analysis. I believe this to be a rare gift that sets him completely apart.

The basis of the Chandigarh plan could be set to rest upon his simple analysis of road functions, which, having arrived at, he dramatised as the *seven V's* (from French *voie*). To show how simple they are I will list them as follows:

V 1 — Inter-city, all-purposes highway, free from development
V 2 — City distributive road, all purpose, separately tracked for fast, slow, cycle and pedestrian traffic, with development on outer slow-traffic frontages
V 3 — Segregated fast-moving traffic road, without sidewalks or any frontage development
V 4 — Slow-moving mixed traffic, main street shopping, business and parking
V 5 — Residential slow-moving distributive road with minimum frontage development
V 6 — House access road
V 7 — Recreational or cycle road in parkway or open space

Having arrived at such a definition of function most people proceed to mix them up or at least fail to defend the function from impurity. But just as the essence of the *Ville Radieuse* is the exact employment of functions drawn from congested conditions and applied to the solution of congested conditions, so that of Chandigarh rests upon preserving intact the true functions of the seven V's.

The basis of the plan is a gridiron of V 3 (fast-moving traffic) roads intersecting at half a mile across and three quarters of a mile up the plan. These roads are 100 feet wide with a carriage way of 44 feet, tree lined borders. and NO FRONTAGE DEVELOPMENT. Traffic is interrupted therefore at half-mile and two-thirds-of-a-mile intervals



Jacqueline Tyrwhitt

only and is otherwise free to move at its own top legal speed.

The gridiron encloses areas known as sectors, of about 240 acres and housing up to 15,000 people; and what helps to safeguard the function of the V 3 roads is the fact that the sectors are planned *internally*, look *internally* for the varied activities of day to day life, and make contact with the surrounding fast traffic roads at specified points only. Thus a particular inhabitant, in order to reach, say, the Government Secretariat, would proceed by the roads V 6, V 5, V 4, V 3, V 2 if he went in his own car, or direct to a specified bus stop on a V 4 or V 3 road if he used public transport, or on a V 7 cycle track along an open space. In every case the route is defined and the function segregated.

Day-to-day life in the sector has two aspects. First, the life of activity, shopping, "rubbing shoulders" represented by the V 4 main street, or in India the Bazaar Street that runs irregularly across the sector and on the shady side only of which are placed the shops, local markets, offices, cinemas, etc., with plenty of shade trees and off-street parking space. Second is the leisure aspect of sport for youth, recreation in general, education and relaxation, represented by a band of open space running in the contrary direction, both of them continuing from sector to sector across the plan.

Thus in opposing directions that help to preserve function, but absolutely contiguous to the housing that fills up the space remaining, you have the two major elements of day-to-day life defined and provided for. The city then is built up of these day-to-day life sectors with the two opposing elements carried over, and such a plan could be placed on any flat land anywhere.

What Sets Chandigarh Apart

What differentiates Chandigarh is that it is a capital city on a flat site immediately backed by high mountains, the Himalayas: and what gives it civic form is the placing of the capitol group of buildings at the head of the plan against the mountains; the accentuation of the two major V 2 roads, with the city centre as opposed to the state centre to the right of the crossing; the creation of a city park along the line of a stream bed reinforcing the capitol approach road and opening to the left into a wider arm in which are situated the cultural buildings culminating in the University; and the confining of this accented plan within two dry river beds about 5 miles apart; and the line of foothills that stand before the great wall of Himalayas rising immediately to 5000 feet and continuing endlessly in either direction.

What is so interesting is to see the extent to which a rigid framework, following so austere a logic, can be animated by the varied stresses of its functional parts. To be able to step on the gas is a quality of motoring nearly suppressed in the modern city; but it is a good thing to be able to do so; hence the straight roads.

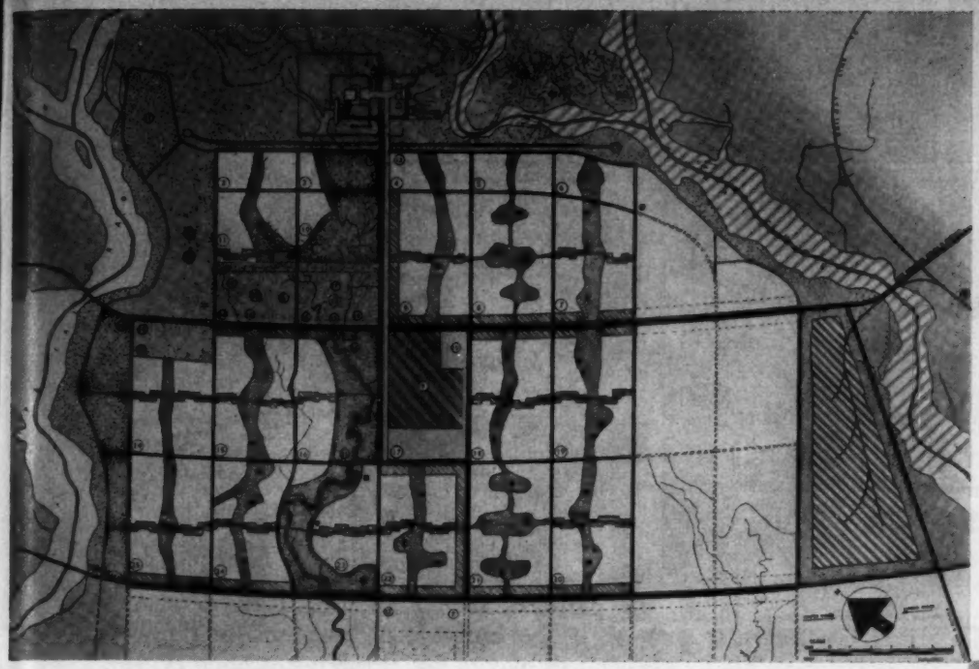
As life approaches the family orbit it may be more various and accidental, and within the sector this is not only possible but natural. Yet wherever you might be you are orientated by geometry of the simple road system and by the mountains.

The further accent given by tree planting will transform the present rather arid-looking urban landscape. The site is fertile agricultural land, and not desert as some enthusiastic Parisian correspondent suggested. A great variety of trees and shrubs will flourish, and from among them Le Corbusier has selected types which, whether on account of shape or the colour of their blossoms, will be used to identify the main roads, and to provide over-arching shade on the fast motor roads.

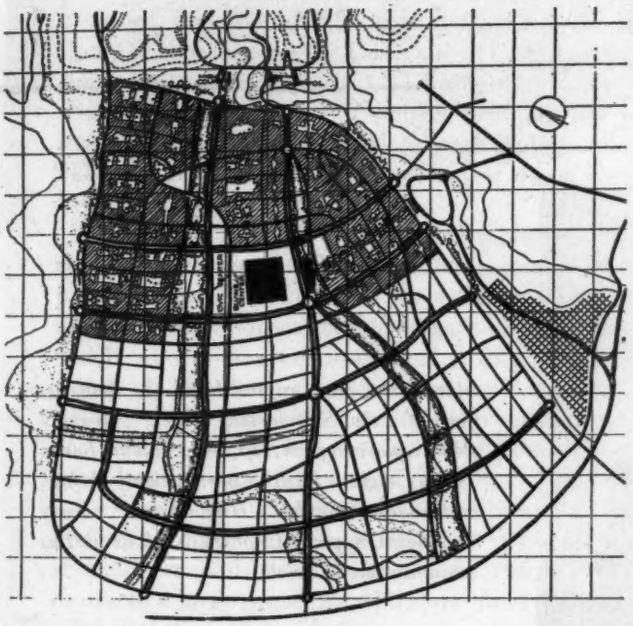
The Capitol Buildings

The capitol group of buildings occupies 220 acres of land at the head of the plan, cut off by a canal and a boulevard from the nearest housing, but approached directly by the wide capitol approach road.

This is a very carefully adjusted asymmetrical siting of buildings carried to the limits of visual propinquity



Set on flat land at the foot of the Himalayas, Chandigarh is being built to Le Corbusier's gridiron plan, with the grid of main thoroughfares enclosing sectors or superblocks which differ somewhat in concept from those of the pilot plan. Capitol buildings are at top center of site plan; University at extreme upper left; business district and civic center in middle across central artery from park land in which are institutional and public buildings. Industrial area is shaded, at lower right. Additional commercial areas surround some sectors; each sector contains schools, market place, etc. General market lies southwest of developed area

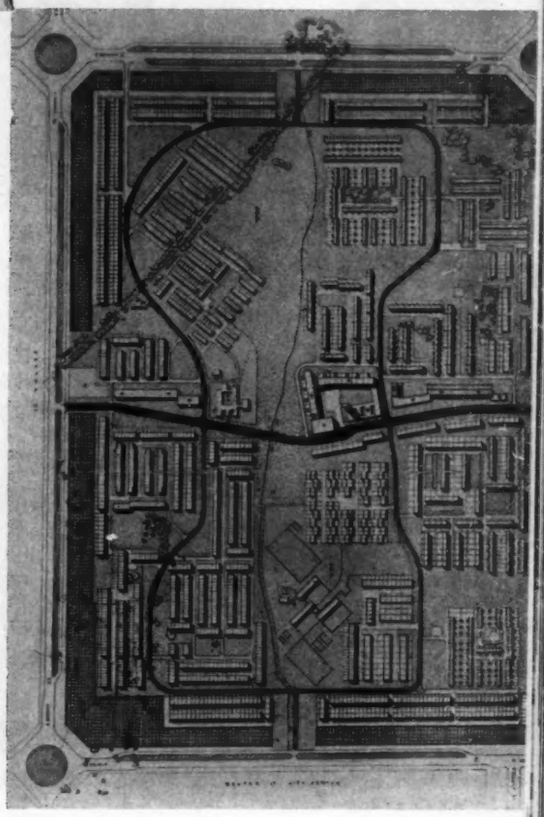


from "Journal, Royal Architectural Institute of Canada"

Above:
Final plan of a portion of the city

Right:
Typical sector (superblock), final plan

Left:
Mayer & Whittlesey's pilot plan

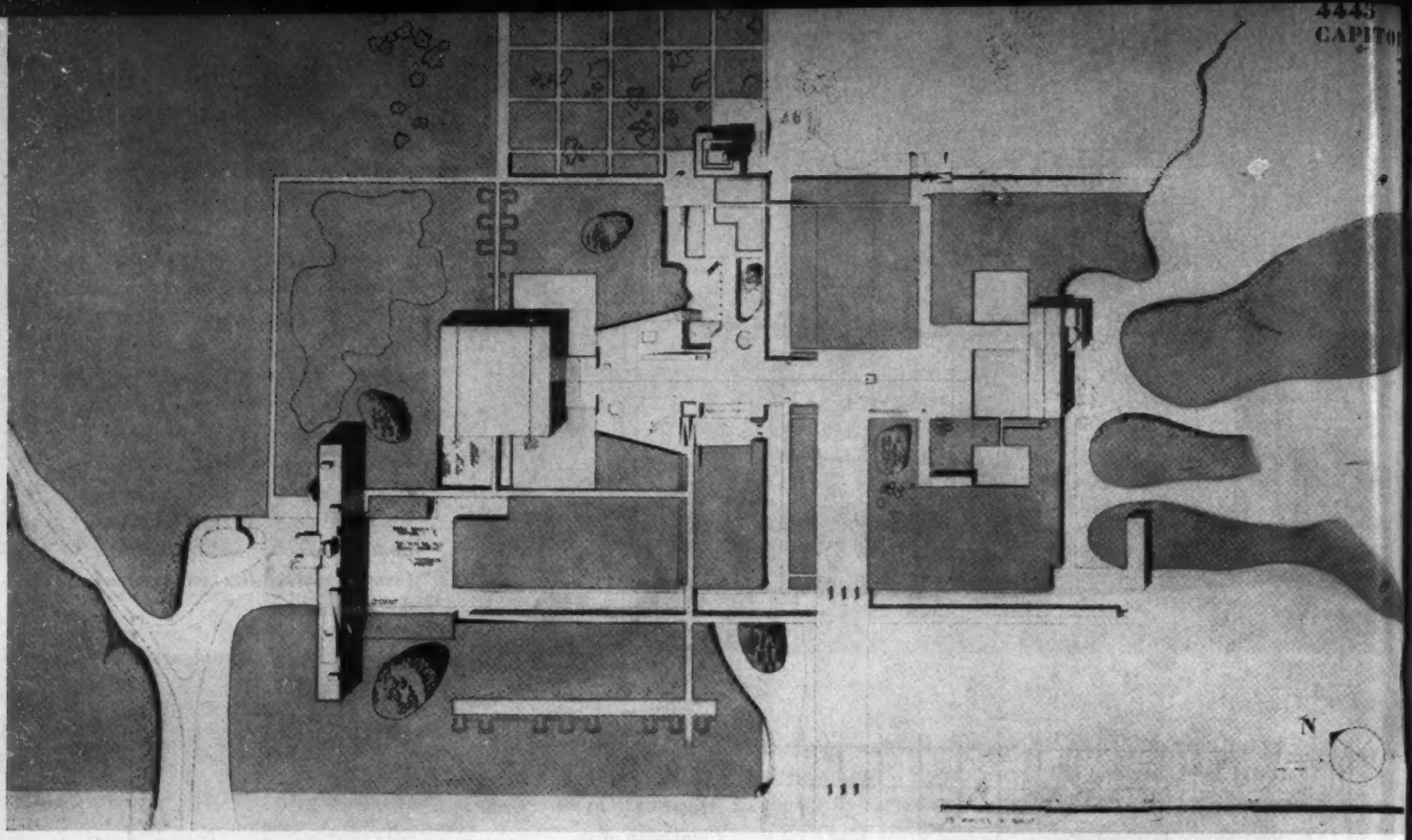


All drawings and site plans from "le Corbusier 1946–1952", Girsberger, Zurich-Wittenborn, N. Y. except as noted

on a great layout of lawn and lagoon. The High Court and Assembly Buildings face each other across a broad pedestrian way; the Governor's Residence stands back towards the hills; the immense Secretariat, nine storeys in height and over 800 feet long, breaks the rectangle of the western corner, and the monument of the "open hand" provides subsidiary interest where it is needed.

In order to preserve the garden quality of the whole, approach roads to the buildings are in a cutting, helped to this end by the erosion of the city park stream bed that leads into the Secretariat; and the earth from these sunken roads Le Corbusier heaps into little artificial hills, diversifying the landscape and emphasising the siting of the buildings.

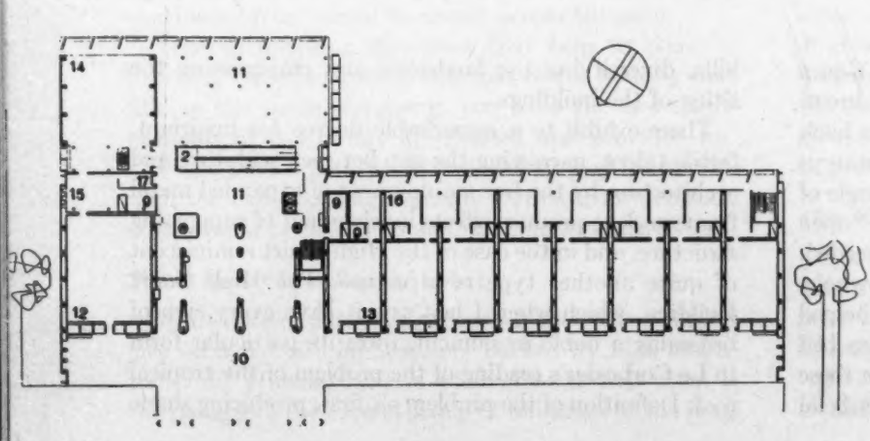
These exhibit to a remarkable degree his luxuriant, fertile talent, narrowing the gap between sculpture and architecture by the free employment of expanded metal framework to produce effects independent of supporting structure, and in the case of the High Court reminiscent of quite another type of structure. The High Court Building, which when I last saw it gave every sign of becoming a noble monument, owes its particular form to Le Corbusier's reading of the problem of the tropical roof. Definition of the problem as, first, producing shade

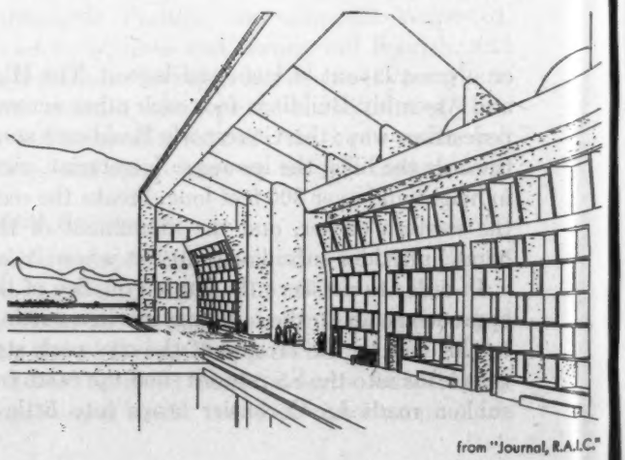




N. Y. Herald-Tribune

Above, site plan, capitol buildings showing, far left, the Secretariat; center, Assembly Hall, square in plan; top, Government House; center right, High Court; right, below, Advocates Chamber. High Court, nearly completed, appears in photo at left as well as plan and sketch below





from "Journal, R.A.I.C."

temperature, and then protecting the interior, at once suggested the image of a parasol held over a building, and this lively image he translated into architecture in the form of a giant roof cantilevering over the court rooms and offices below in a series of vaults, resolutely contained by a massive wall at each end, from which great gargoyles spill the monsoon rains on to a tumble of rock in the lagoon 60 feet below.

I have little doubt that the result will justify the means, for within the frame of roof canopy and end walls, and despite a regular disposition of the court rooms and offices, there is a wealth of significant detail, responding to the conditions of climate and the uses of the building, and controlled by the *Modulor* system of proportion, with its creator behind it.

Of the other buildings it is perhaps early to speak, except to say that the Secretariat breaks from its rigid office grid to emphasise the quarters of the principal figures of state government, and to void its population of clerks down two ramps held away from the building face. The Assembly Building is the freest of these creations. Its canopy roof echoes the spirit of the High Court but the forms of the Government Chambers below are organic and unstructural. The delightful Governor's Residence is a return to a simpler medium, but with ravishing interplay of internal volumes leading to fairy-like roof gardens held in space; never was a lovelier little palace conceived.

Nothing is more difficult than establishing a city centre in advance of the pressures of business and shopping that are the reason for its existence. The space allotted for the purpose at Chandigarh is over 160 acres which, at the densities associated with a city centre, represents far more than the city could support for many years to come; but instead of leaving the heart or core to the last, this is to be developed from the beginning, leaving the outer parts as park.

Le Corbusier's city centre plan echoes the sector system but replaces the open space by large pedestrian shopping areas in the form of a cross widening at the centre to a large square on which are the city hall, post office and the first business premises.

Car traffic circulates in the rear and passes over on fly-over bridges piercing the continuous facades, which are designed to a module that will allow of flexible adaptation to varying needs.

This description completes the work for which Le Corbusier was directly responsible and leaves the very great task of designing and building over 4000 permanent dwellings for all grades of government officials, and the social buildings such as schools, hospitals, health centres, etc., which were built concurrently with them.

Houses and Housing

By far the most onerous task before the architects was the design of 13 categories of government houses, graded from the lowest costing only £244 ($683.20) to the highest costing £4875 ($1365.00) and excluding the house for the Chief Minister.

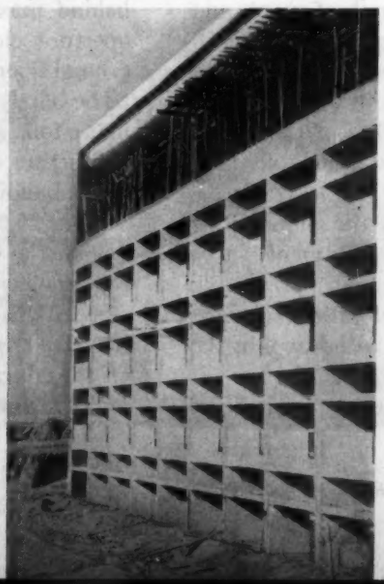
The accommodation asked for seldom matched the estimate, and most noticeably in the lowest grade, where a long suffering class of office messengers, drivers and the like pleaded for two rooms rather than one, and in which the critical item proved to revolve about the problem of whether or not an individual W.C. could be provided.

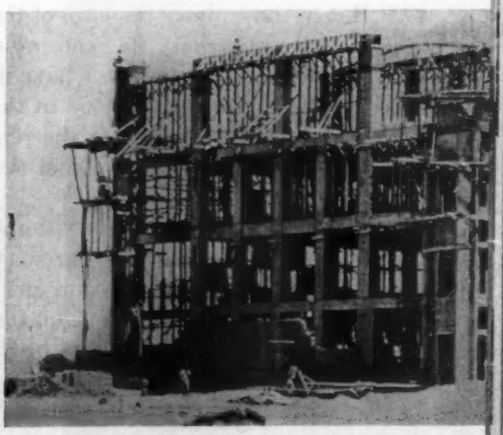
In fact on an area of 428 sq ft two rooms of about 100 sq ft each, a closed kitchen, a wash-room and a W.C. were provided by both M. Jeanneret and Jane Drew, together with a walled compound; and in the village group of 150–200 houses she planned for this type of house, Miss Drew was able to provide a central space, to close in the ends of her parallel pedestrian roads, provide linking end walls from block to block, along which electric supply cables were taken with a complete abolition of unsightly poles and therefore to plant trees in freedom — and all this at a cost of 0.9 per cent of the total.

Below this again, realising the existence of classes of sweepers and refugees uncatered for, she designed houses costing only £154 ($431.20) in all, but with the essential amenities; and residential shops expandable into a courtyard of which 2000 were planned and about 600 built before she left in August 1954.

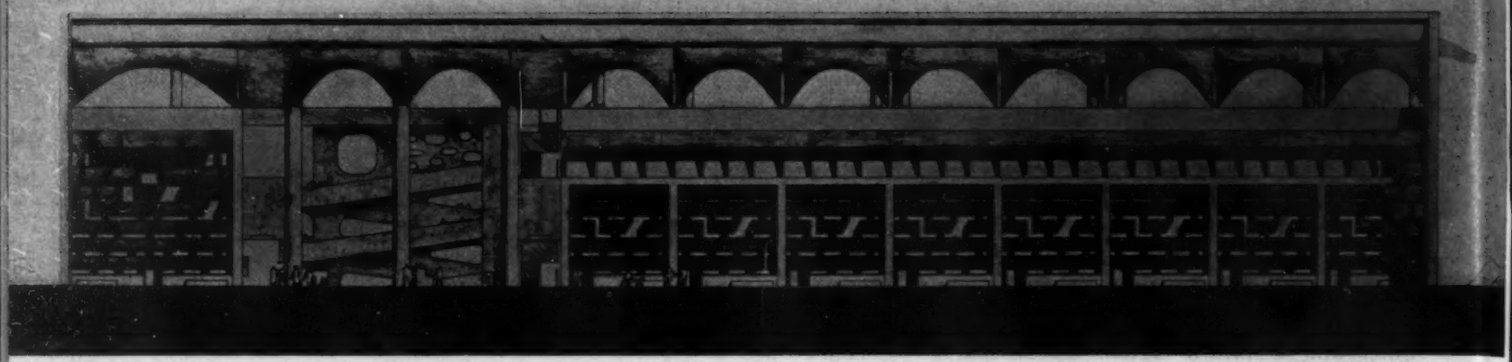
The low cost of this, and indeed of all housing, owes much to the cheapness of bricks at 30s ($4.20) per

Jaqueline Tyrwhitt





Chandigarh is essentially a government seat; the government buildings, all designed by Le Corbusier, stand on a raised plateau to the northeast, approached by a long civic avenue for the processions which are so much a part of Indian ceremonial. First building erected is the High Court of Justice, shown at right under construction and, on facing page, at the dedication this past spring



Jaqueline Tyrwhitt

thousand, made without any machinery on the periphery of the site; and to a labour force of men, women and children underpaid, unhoused, and uncared for, turning the heart by their beauty and cheerfulness under conditions as bad as could be imagined.

We had to contend with two imponderables: the habits and customs of a Hindoo population; and a climate that ranged from just above freezing point in the winter to 115 deg F before the breaking of the monsoon in June; that is to say with great rigours of dry heat, and all its accompanying dust storms and hot winds in the critical period before the rains; with high humidity and heat thereafter; but with, even at these times, the memory of a crisp and brilliant winter season to come. It is, as an old lady in Delhi remarked to me, not one climate, but six; and it took us a long time to recognise which season governed the others.

In meetings we had with typical groups of our new clients, drawn from the various grades, we learnt the intricacies of Hindoo religious observance in the domestic routine, the separation of sexes, castes and occupations; of customs of sleeping and relaxation brought about by climate; and in the first houses we designed, we gave them greater prominence than perhaps they deserved or the cost per square foot warranted.

For instance, it was impressed upon us that the normal woman preferred to cook at floor level, and for the four lowest grades of houses we designed accordingly. But in those above, mindful of the march of events and of cheap electricity to come, we designed a kitchen on the well studied lines that have lightened the labour of countless domestic workers in the Western world, and in due course listened to the reproaches of those who had been given exactly what we had been told they wanted.

Encouraged by this, we simplified the planning of houses thereafter and threw the additional space secured into the living-rooms and verandahs, preserving always the sleeping terrace on the roof with its *barsarti* into which the light *charpai* beds are withdrawn in the variable weather of the monsoon period.

With our band of open space in the sectors secured, we planned closely in urban formation, using terraces freely and avoiding like the plague the amorphous garden-city character that has done so much to rob the new towns in England of a sufficiently contemporary character.

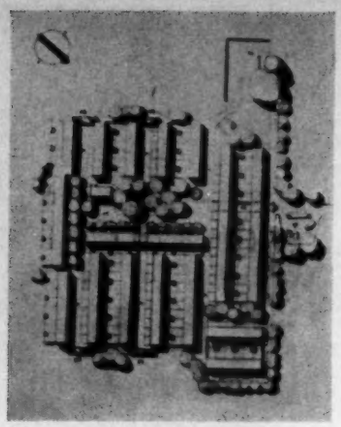
Building Construction without Machines

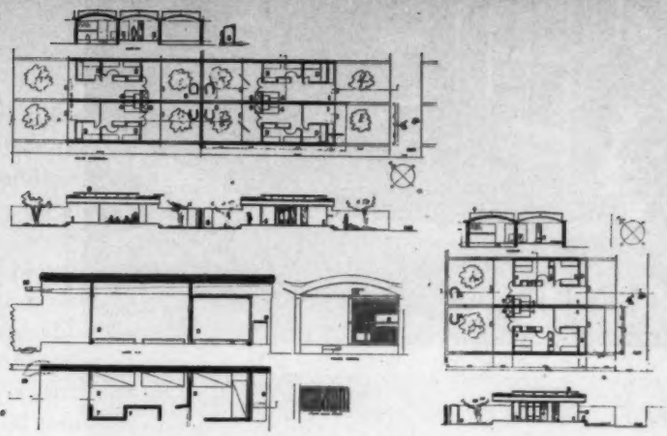
The technique of house-building in Chandigarh relies nearly entirely on hand labour on the site. The only machines involved were lorries, an occasional concrete mixer, and some band-saws for rough carpentry. I personally came to rely more and more upon what bricks could do, and built sunbreakers, grilles and balustrades of brick, occasionally reinforced and very often plastered; and as time went on learnt to simplify, paying less attention to the needs of cross-ventilation, which in the critically hot period is of no avail, and more to the creation of cool interiors, as large as possible and as amply protected from the southwest sun as ingenuity and exiguous funds permitted; so that in the few of my house types that I felt really responded to the gruelling conditions there were few windows and small on the exposed fronts, and no openings of any size not protected by overhanging verandahs.

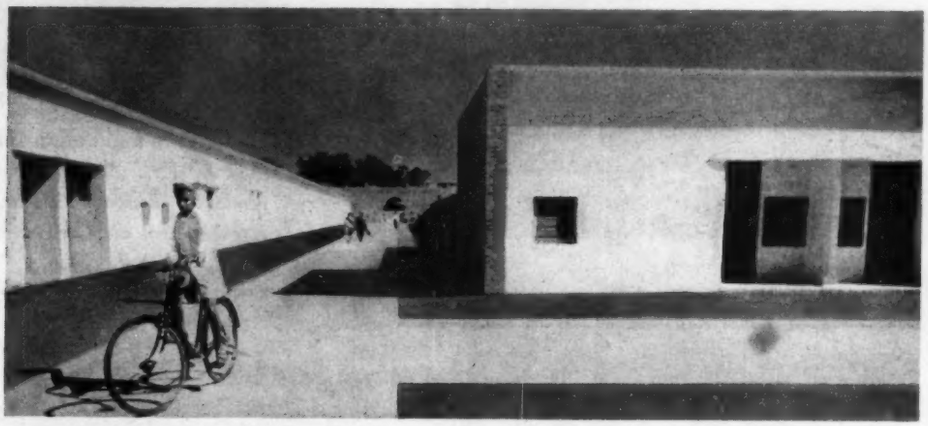
In Chandigarh the southwest aspect is above all vulnerable, but there is this critical period with temperatures up to 115 deg F, and high night temperatures, when everything is penetrated by heat above body temperature. Against this the only defence is to retreat behind massive walls or their equivalent, with every aperture closed and if possible sealed. Only certain ground floor rooms, set well into the building, are likely to be barely tolerable, and they must be secured or the house fails when it is most needed.

Starting from blank paper and an empty site the house building programme was completed in three years — over 20,000 people moving into permanent buildings — and the Government enabled to function in temporary quarters.

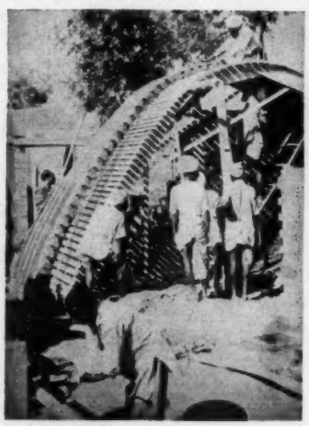
With this house building went schools, a health centre, hostel, a large Government Printing Press and a cinema. Of the educational buildings a Junior Secondary School of M. Jeanneret, a large High School by Jane Drew

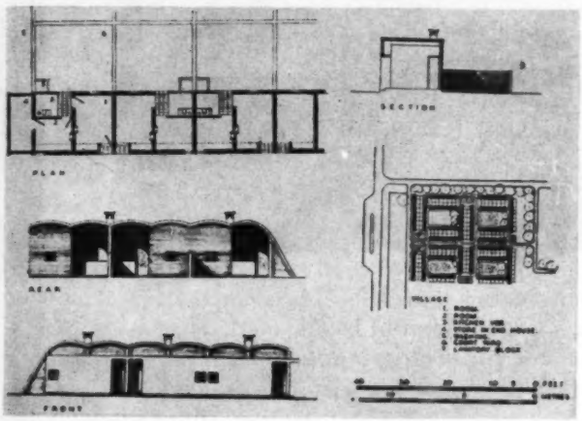




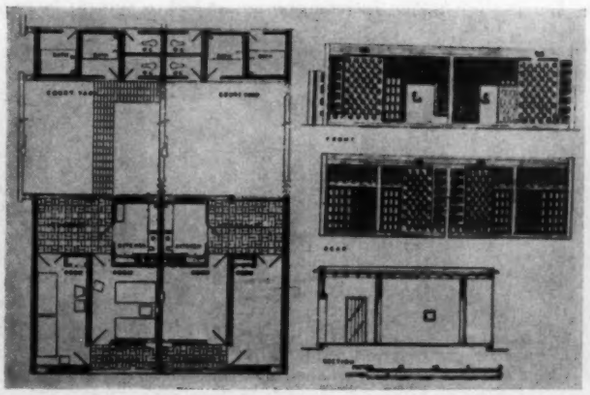


Housing types: group at top of page, dwellings designed by Le Corbusier and plan of a group in a typical sector. Center, types designed by Jane Drew, and typical construction techniques. Bottom, housing by Pierre Jeanneret





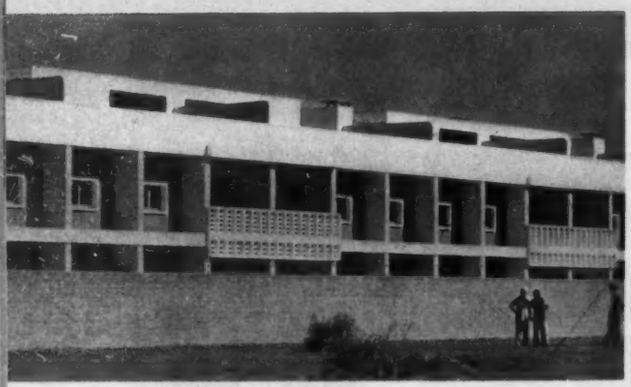
Jaqueline Tyrwhitt



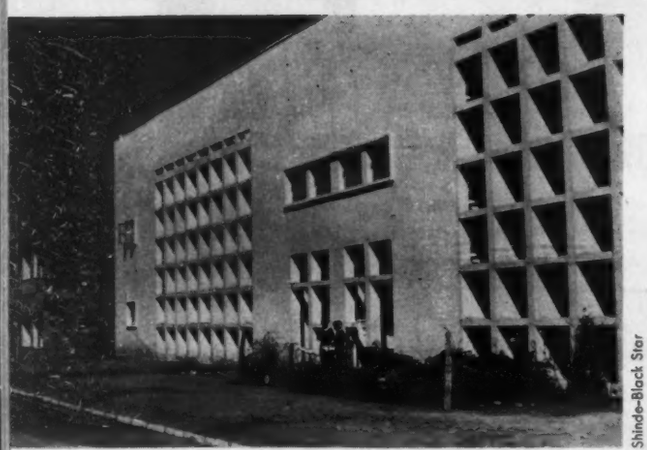




N. Y. Herald-Tribune



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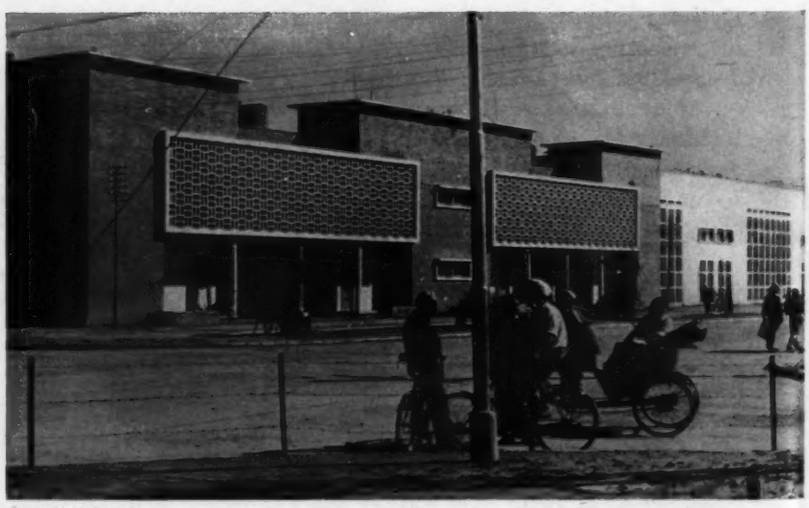


Shinde-Black Star



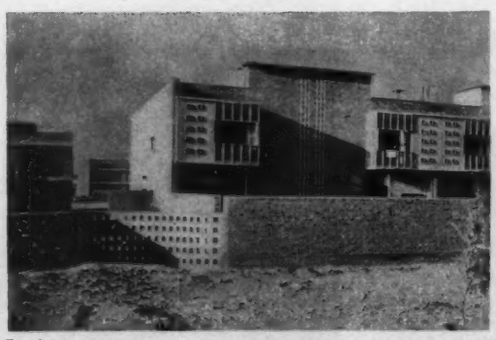
Jean Lyons-Black Star

". . . it was impressed upon us that women preferred to cook at floor level . . . we designed accordingly for the four lowest grades of housing . . . and in due course listened to the reproaches of those who had been given exactly what we had been told they wanted."



Shinde-Black Star

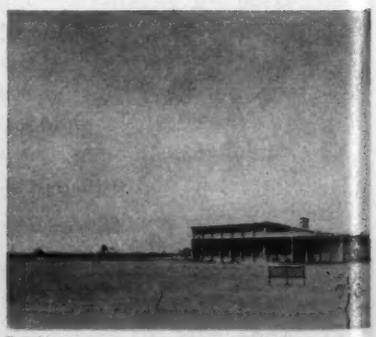
Four photos above show types of housing for middle-income groups, a few of the ubiquitous bicycles, and use of masonry in various ways to protect against terrific sun. Below, housing for higher income groups; at left, a typical boundary wall



Tyrwhitt



Tyrwhitt



Tyrwhitt

and a college of Engineering by Mr. J. Chowdhury, the chief architect of the Public Works Department, were completed by the summer of 1954, together with some nursery schools, and a lovely health centre built very simply in plastered brick but more than normally well finished.

Practical Legal Controls for Growth

In order to control growth we had also to frame bye-laws, to draft Acts for the control of advertisements, protection of trees, and control of the periphery; and because we were unwilling and unable to control the design of individual buildings erected by the public, we devised a system of sector planning sheets on which were shown graphically the building lines, permissible heights, buildable areas of plots, public open spaces, scheduled trees, and controlled boundary walls, with standard design for gates. Some frontages on important streets we controlled as to height, profile materials and set-backs, in order to protect to some extent the effects such streets would have when finally built. But further we did not wish to go, nor could go, without the aid of a large staff of inspectors in each of whom should burn an equal zeal for architecture; but in whom, despite appearances, and as we know somewhat to our cost in the West, a love of family and security quenches the immortal fire and replaces it with a care only for the letter of the law.

This work proved to be a great labour, but the public was grateful for the sure knowledge of what was and what was not possible, and it was as a system more responsive than the legal wording of building bye-laws, however necessary such things are.

The planning of the first project for 150,000 people takes place on 8919 acres of good flat agricultural land containing some 26 villages or hamlets, with future extension to a population of 500,000 secured by ordinance.

Costs and Financing

The project contemplates a total expenditure of £12,886,385 ($36,081,878.00) during its first phase, and of this more than half, i.e. £6,617,213 ($18,528,196.40), relates to the cost of development and of civic amenities; while the balance represents the cost of government building and water supply, with recoupable items bringing the gross expenditure to £13,417,154 ($37,568,031.20).

Development costs are to be recovered from the sale of plots to the public, and taking into account rents paid for government buildings in the first phase, the net expenditure works out at £6,241,461 ($17,476,090.80).

The cost at which land is sold to the public includes everything covered by the term "development costs" — land acquisition, roads and bridges, sewerage and drainage, electricity, dams across the river, landscaping, railway facilities, establishment charges, and a large item of civic works. This last includes as many as 35 educational and eight medical institutions in addition to six community centres, six swimming pools, a stadium, museum and art school, library, town hall and a number of administrative offices; and within the 35 educational buildings are large colleges for men and women, four high schools and a residential school, 11 junior secondary schools, 15 nursery schools, and a polytechnic and college of physical education.

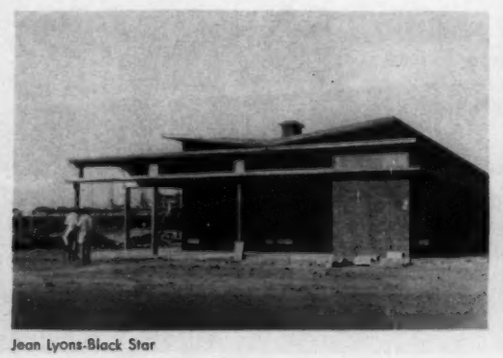
The cost of land, loaded by everything that could be held to provide the social amenities of a modern welfare state, worked out at a value of 18s ($2.52) per sq yd for small domestic plots grading down to 6s. 7d. ($.92) per sq yd for the largest; at these prices land was sold by allotment with preference for displaced persons, to a waiting list far exceeding the number of plots that the overworked architects and town planners could make available at any one time. Similarly the industrial and commercial plots offered by public auction were eagerly taken up at prices nearly embarrassingly above the reserves set upon them in the estimate.

Thus the financing of nearly half of the total expenditure was advanced by the payment of the first of four annual instalments of 25 per cent of the plot values, in return for which purchasers could expect such amenities as had never before been offered to Indian citizens.

Conversely it became incumbent upon the architects to plan the city so as to realise the full value of these sales, and for the engineers and architects to keep within the already pruned estimates upon which these

Typical of the semi-public and commercial buildings at Chandigarh: left, the hotel; center, public market; right, cinema



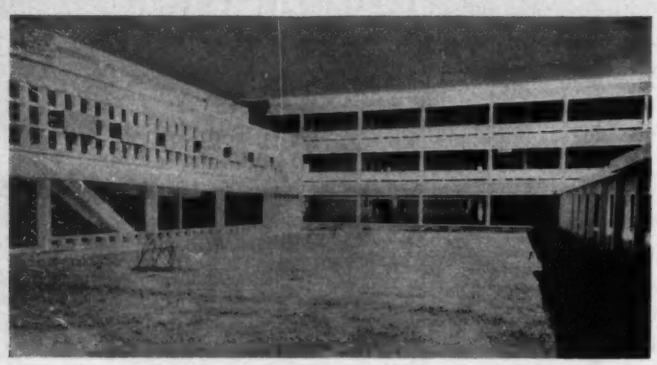


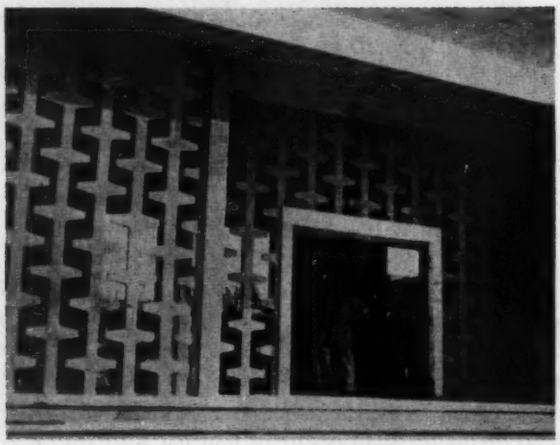
Jean Lyons-Black Star



Shinde-Black Star







Jaqueline Tyrwhitt

Above, health and school buildings: top, health clinic, one to each sector; center, secondary school designed by Jane Drew; bottom, entrance to school designed by Pierre Jeanneret. Below, Engineering College, by J. Chowdhury

values depended, Chandigarh being on what might be called the "cash and carry" plan, with loans from the central and state Government, but only a comparatively small element of direct subsidy.

A City at Once Frontier and Modern

It is necessary to make clear to American readers that Chandigarh, though it is a first class town in so far as no house is without electricity, water and water-borne sanitation, is a frontier undertaking carried out with men, women, children, donkeys and camels in place of high overheads and lots of equipment. Apart from some trucks and a few concrete mixers, hardly a wheel turned. Materials were carried rather than hoisted; and everywhere it was the human hand instead of the machine.

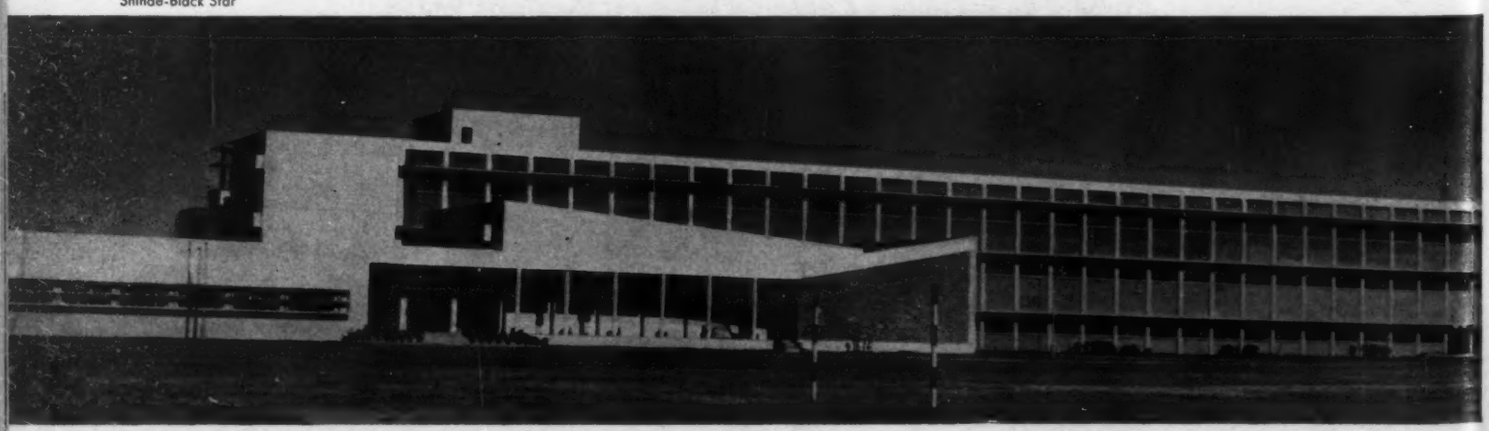
Our all-Indian staff was enthusiastic but nearly entirely unqualified. They came to us from all over India, but largely they were fourth- and fifth-year boys from the Delhi School of Architecture who regarded the office as a finishing school. They proved that sustained enthusiasm is a substitute for experience because such people are serious and learn quickly; by their overflowing spirits they infected the whole undertaking, and compensated for many of the drawbacks of an antiquated Government system of working in which the architect normally occupies a subsidiary, irresponsible role.

We have done our three-year contract and Chandigarh goes on happily without us. I am writing this in Nigeria where changes no less spectacular are transforming another tropical way of life.

It seems but yesterday since P. N. Thapar, our one time administrator and Mr. P. L. Varma, our Chief Engineer, sat in our London flat trying to persuade us to leave Africa for a bit to take on this Indian adventure, and it was out of the difficulties of managing this that the chance came to bring in Le Corbusier, who thereafter dominated the scheme with his profound intelligence and courage.

As a friend of mine said on hearing of the decision: "You are likely to learn more from him than he from you, eh?" and that is how we all felt.

Shinde-Black Star





Laboratorio Palacios

EDIFICIO CREOLE, CARACAS, VENEZUELA

Office Building for Creole Petroleum Corporation

Lathrop Douglass, Architect

Severud-Elstad-Krueger, Structural Engineers

George F. Driscoll Company, Builders



EDIFICIO CREOLE

THOUGH MANY exciting buildings have sprung up in the boom in Caracas since this building was designed (see ARCHITECTURAL RECORD, Jan., '49), and though many changes were made in the plans, the recently opened Edificio Creole is still a noteworthy example of North American design and construction techniques when exported to faraway places. Finding its architectural inspiration in logic and efficiency requirements, it demonstrates how fortunately such an approach can turn out.

While changes in the parti altered the total form of the main office building, its principal design determinants still hold: its slab form grew out of (1) climatic considerations, (2) a planned scheme of private offices and desk placing in large open areas, (3) space flexibility according to departmental integration, (4) direct circulation.

Climatic conditions are perhaps most interesting. The temperature as such is ideal; the building requires no heating or cooling. But the high tropical sun calls for positive measures. If a building traps the sun heat it can become intolerable. Moreover heavy rains make humidity a problem: ventilation is very necessary, and rooms for I.B.M. machines must be dehumidified. Also glare can be very annoying.

The slab form wrapped up these considerations quite neatly: with the long axis east and west, the building

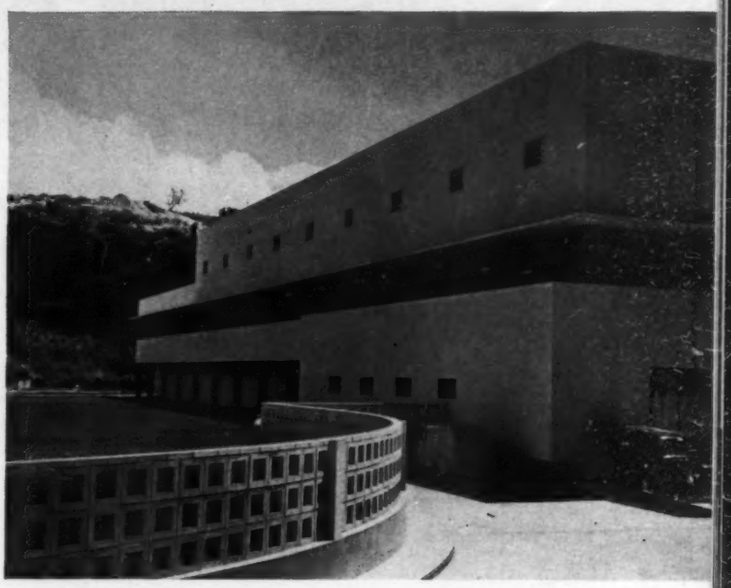


avoids the low east and west sun. These ends of the building are closed with stairs and toilets; all offices face north or south. The north and south exposures (both of which get sunlight) are easily protected by narrow sun visors, since the sun strikes these sides at very high angles. Also the long narrow form offers no surfaces for the glare of reflected sunlight. And the air circulation through such a building, with full-opening awning type windows, is at the maximum.

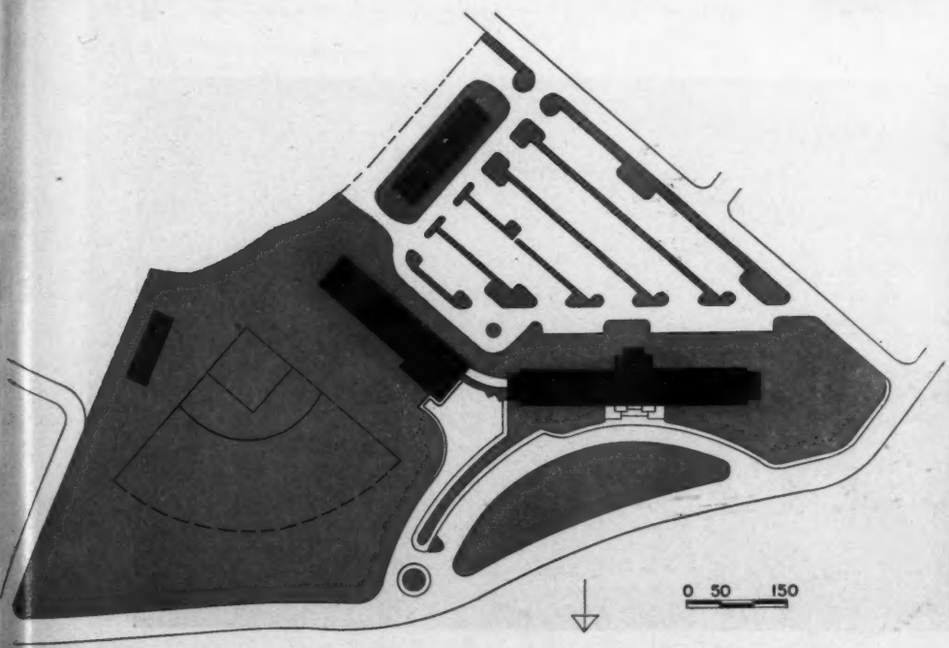
Heavy concrete walls at the ends of the building (the textured pattern comes from unglazed openings for ventilation) serve well for lateral earthquake bracing. Caracas is considered an earthquake zone although there have been no quakes for 100 years. The offset elevator stack with stairs at the center is also for earthquake bracing — there are heavy concrete walls here, offset for additional stiffness. Longitudinal earthquake braces at the columns are hidden in the spandrels; this necessity kept the columns from being placed completely outside the wall, as originally intended.

Principal changes to the scheme originally published were the omission of a wide two-story base shown in earlier renderings. This was planned as an enlarged air-conditioned section to house I.B.M. operations and deep file storage areas. In final plans these areas were included in the annex building, originally planned to house only cafeteria, medical and recreational facilities.



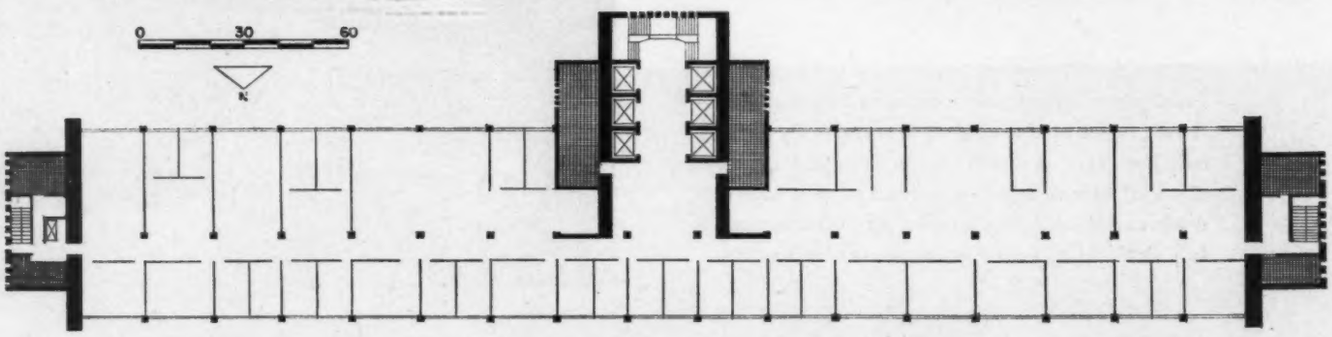


Final plans kept the main building to ten typical stories, moved some special departments to the annex building. This two-story portion is angled off the east-west axis to take best advantage of change of grade, and to leave adequate space for parking lot and ball field. (University buildings in background)

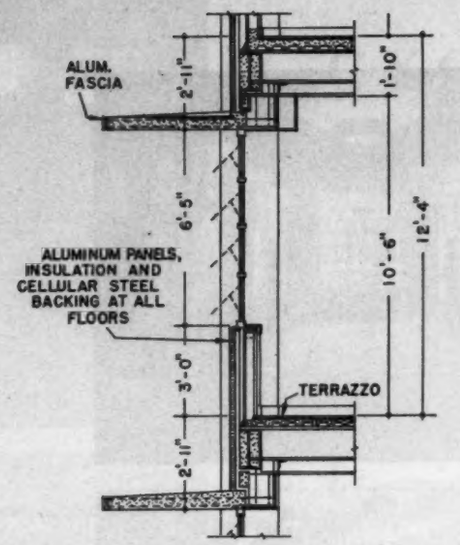




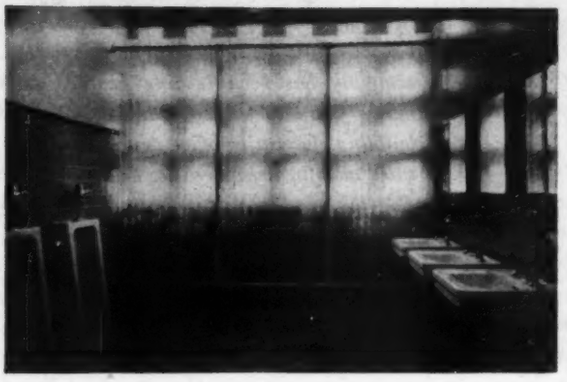



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Typical floor plan, opposite page, shows offset center columns placed for maximum space efficiency, with private offices on north side. Photograph below shows typical office space; sun visors prevent sun from reaching interior, full-opening windows permit maximum natural ventilation



Laboratorio Palacios





The new office building meets a long-felt need for consolidation of many scattered Creole offices in makeshift quarters; the company has been looking forward for many years to the construction of this building. Executive office suite was decorated and furnished by Marshall Field & Co.: top, elevator lobby on executive floor (textured openings beyond lobby are unglazed for ventilation, done in precast concrete insets); right, board of directors' room, and, below, the president's office



Laboratorio Palacios



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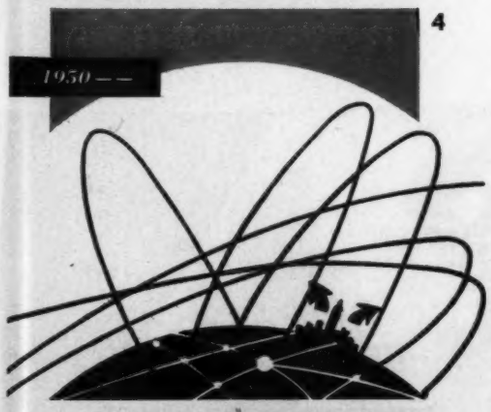


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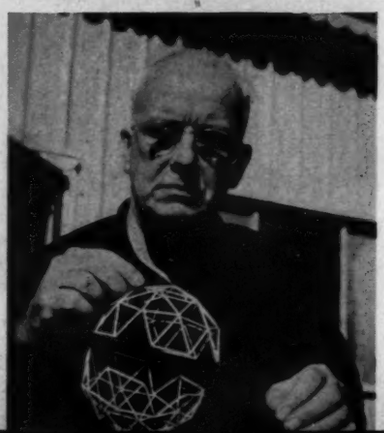


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CYCLE OF EVOLUTION

THE WORK OF R. BUCKMINSTER FULLER

Manifestations of "Bucky" Fuller's theory of synergetic-energetic geometry appeared over 25 years ago. Today it has almost matured into a philosophy applicable to many contemporary phenomena; his structures are being proved by the military and the impact of his mind on students is widely felt. Below is his appraisal of the emerging architect and his work, followed by a pictorial review of his achievements.

IN RESPECT to architecture, an utterly new chapter began 500 years ago — the Era of Commerce. During those 500 years the pattern of Man on Earth was transformed from an infrequent polka-dotting on an enormous sphere — (2) — to a network of lines encompassing a smaller sphere — (3).

The polka-dot pattern of all previous history ends abruptly at the time of Leonardo da Vinci when feudal architects had attained comprehensive authority to integrate their respective remote realms' resources — dearly, tentatively and meagerly won from the apriori, awesome pattern of Nature.

In the Era of Commerce which followed, the autonomous, ocean-borne, far-ranging tool-complex — called "ship" — broke asunder the comprehensive "across the board" functioning of the architect-engineer-inventor-artist-designer-military-strategist — as effectively coordinated in the homeport man.

However, the old architects' comprehensive overall planning prerogative, though seemingly abolished — and always invisible — was secretly retained by the supra-national masters of the world-around patterns of commerce who articulated their new master-architecture in discrete fractions through the visible functions of private and public servants of sovereign but sub-comprehensive world states, master-selected to govern trade, finance, statecraft, politics and armed protection of commerce and exploration.

Because high-seas piracy by competitors could best be countered with secrecy, the visionary, world-integrating dynamic architecture of the Era of Commerce was long obscure. It is now scrutable only because its historical primacy has been eclipsed.

The Era of Commerce knit its pattern of spherical surface lines to bi-Polar closure in 1910, and surprise-triggered another epocal transformation, during technical crises of World War One. An omni-directional, omni-frequency, broadcast, beamed, and trajectoried sky-ocean patterning now (almost invisibly) surrounds a *very small world* — (4).

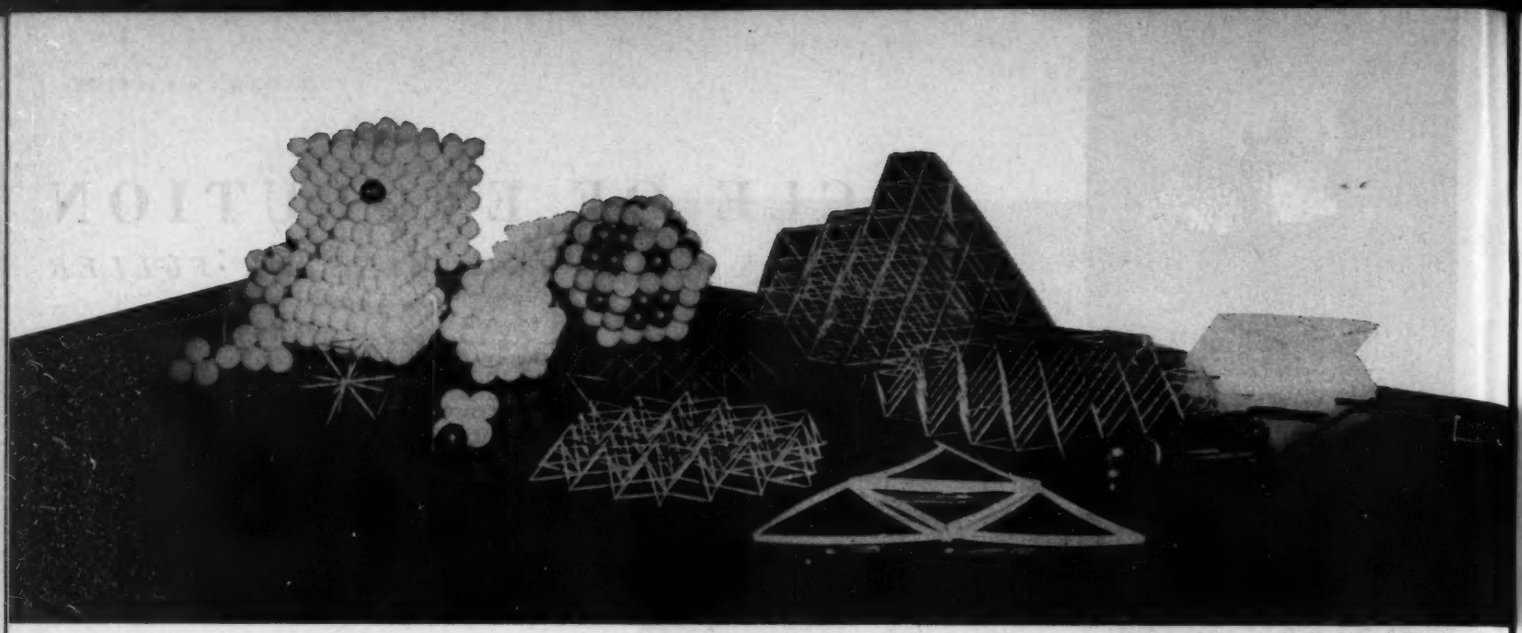
This new pattern accelerated its ephemeralizations from: track to trackless, wire to wireless, pipe to pipeless — from a "Dead" norm of "at rest" to "quick", infra- and ultra-sensorial, reliable *norm* — of wave frequencies effective at 186,000 miles per second. The more it ephemeralized, the more it became permeative, perceptive, incisive and, inductively, omni-communicative. No longer were ships' captains absolute, autonomous commanders; they became intimately plugged-in executives of general authority. Master-architectural initiative shifted uninvited and irrevocably to democratic process authority.

The New Era Architecture is challenged to build for uniformly improving enjoyment of a unifying world; for an around-the-sphere and around-the-year emancipation of all individuals from the basic physical survival fears; from drudgery as muscle and nerve reflex machines.

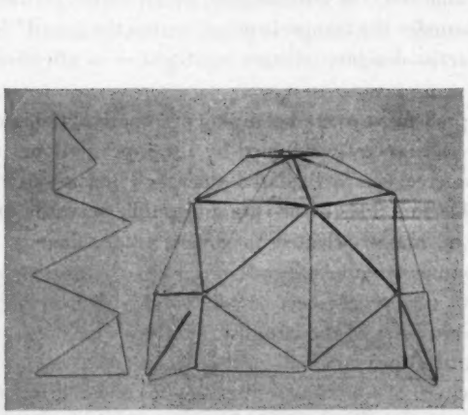
Architects of the New Era must re-emerge as a fraternity of Leonardos.

There is one great difference, however: industrialization is a world-around objective integration of all the findings of all the exact sciences. To function successfully within it as free

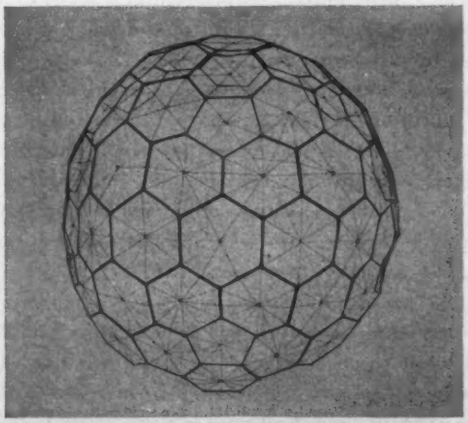
1, ***paperboard dome, Triennale Exhibition, Milano 1954, won grand prize for U. S. A.*** **2, 3, 4,** ***transformation of man's pattern on earth*** **(***see text***). 5,** ***Bucky Fuller***



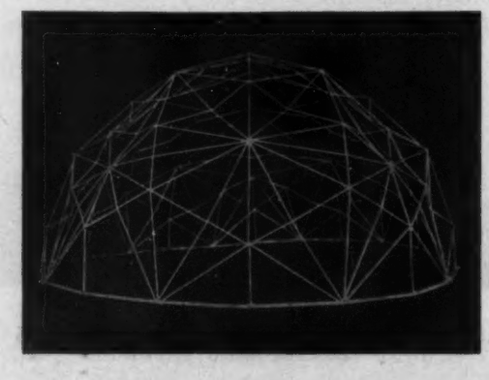
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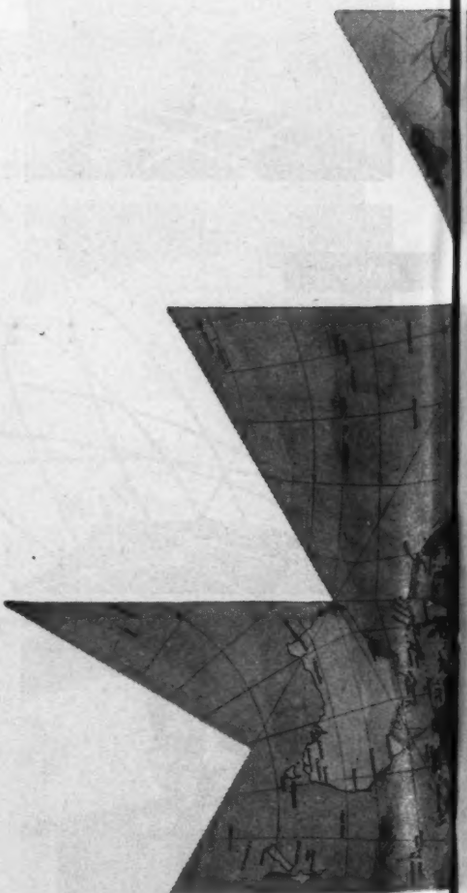


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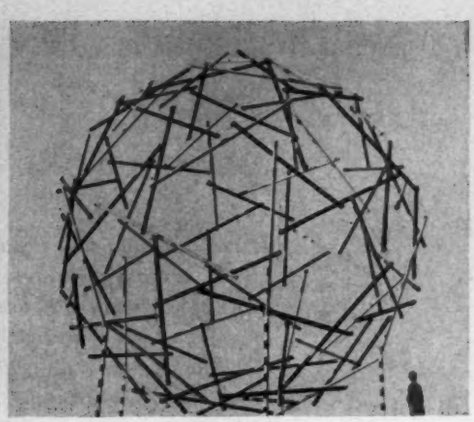
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Shown here are a few of thousands of synergetic geometry models developed in the search for a comprehensive coordinate system which might integrate in one kinetic omni-network all the separate, seemingly unique data of the sciences, the complex patterns of the animates, and the even greater complexities of interanimate behavior. **1,** *spheres packed into smallest possible volume and models depicting their common radii.* **2, 3, 4,** *steps in development of geodesic structures.* **5,** *"diamond turbotangent" used on first radome and on Triennale dome.* **6, 7,** *sphere and mast formed of discontinuous compression, continuous tension members, in which Fuller, through his geometry, converted to man's use the fundamental principles kinetically structuring the macro cosmic and micro cosmic universe. Airocean world map (Fuller projection, patented) shows, without visible distortion, one world island in one world sea at bottom of the airocean.*

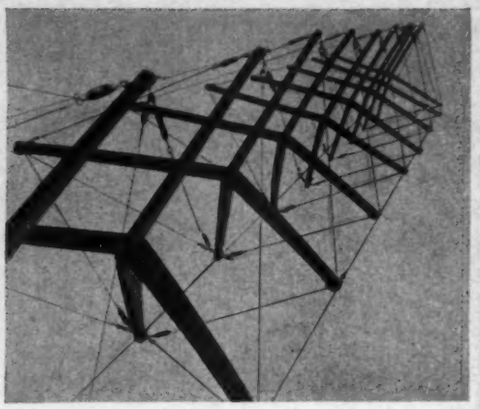




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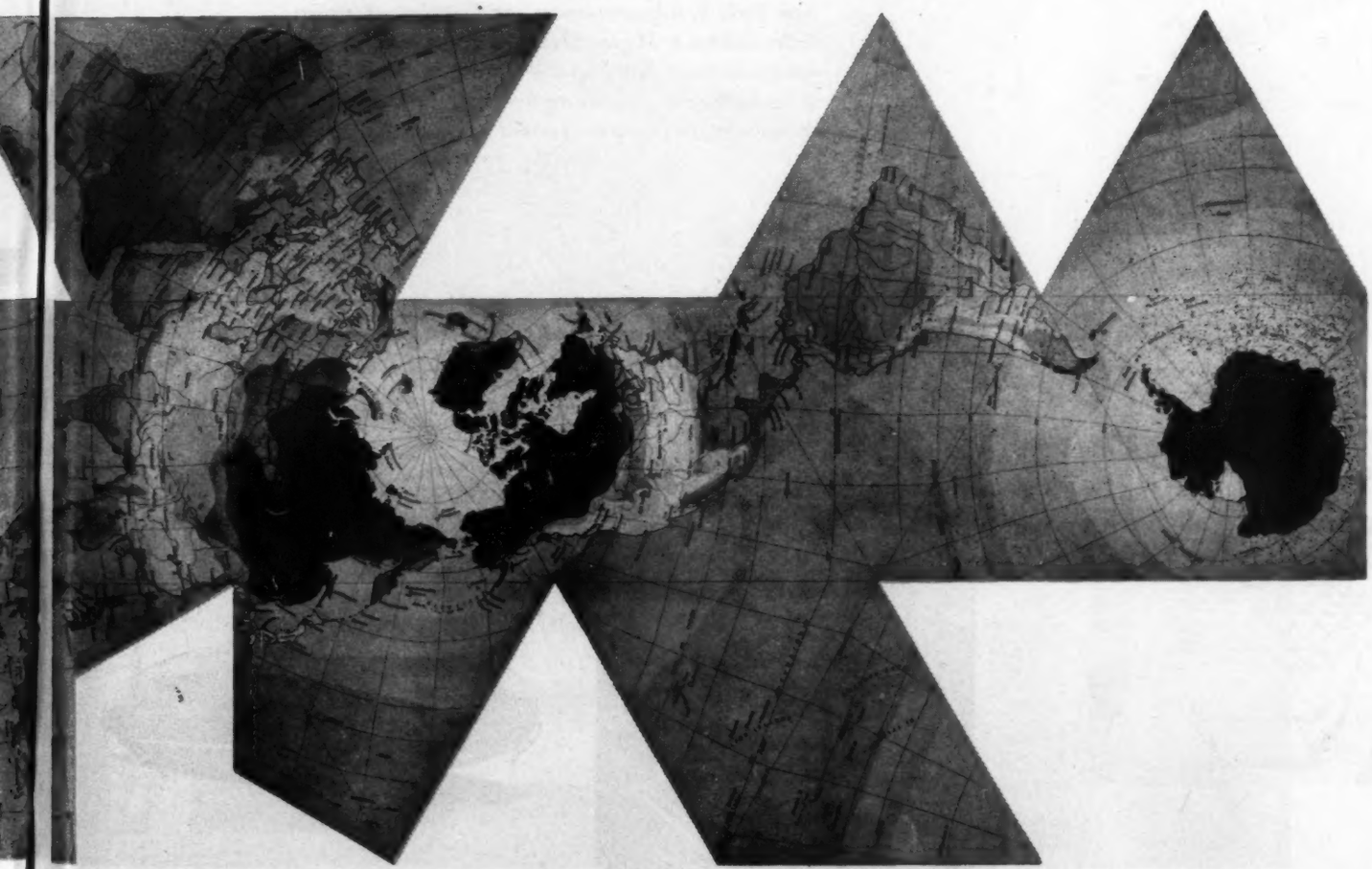
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individuals, architects must first discover industrialization's inherently synergetic, regenerative augmentation. (Synergy: the pattern-behavior of aggregates unpredicted by their components.) Assuming *synergy* as elementary — architects will associate as an Initiating Body of search, research and objective design formulation — addressing themselves strictly to the generalized structures and process cases, as have the exact sciences — subjectively — and as have the naval and aeronautical architects — objectively — leaving to the lives that enjoy the new family of instruments the discovery, composure, and orchestration of an unfrozen music of architecture.

R. Buckminster Fuller

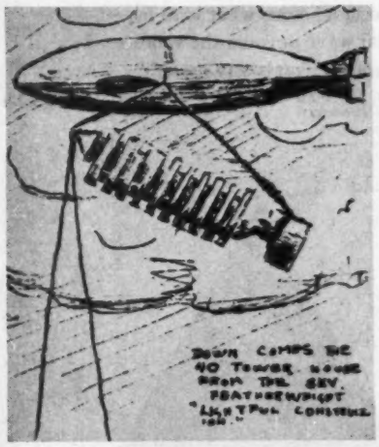
"How now my insulated friend
What calm composure can defend your rock
When tides you've never seen
Wash out the sands of what has been
And from your island's tallest tree
You watch advance what is to be —
The tidal wave devours the shore —
There are no islands any more."*

** Edna St. Vincent Millay, "Make Bright the Arrows", 1940, Harper & Brothers*

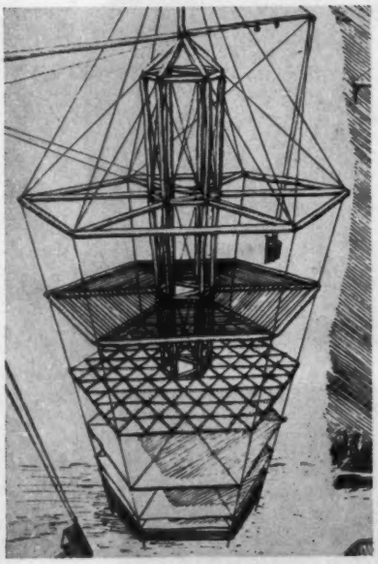




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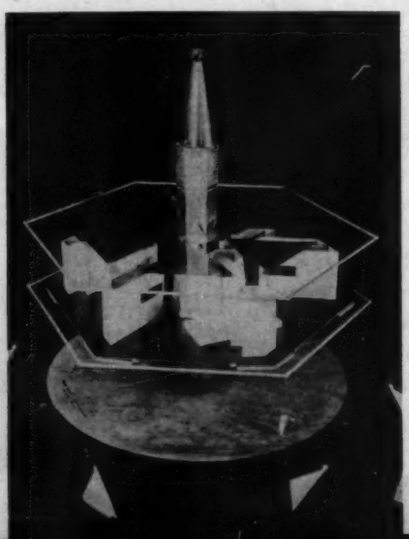
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3

1, Fuller's 4th Dimensional Airocean world town plan (1927) showing theory of world-around air-delivery of principal structures. 2, Graf Zeppelin transporting one of the 10-story apartment houses which are shown in detail in figure 3. 4, the 6,000 lb Dymaxion House (1927) being assembled from the top down and hoisted aloft around a mast. 5, the Dymaxion 4D transport (1933), Fuller's principles applied to locomotion in an easily maneuvered front wheel drive vehicle. 6, Fuller House (1946), a shelter designed of parts so light and nestable they could be packed in an aluminum container (one standing alongside the assembled house in the photo) to be flown anywhere in the world and easily erected. Fuller also developed a "packaged" bathroom which could be mass produced and easily transported. 7, the "Skybreak" (1947) offered a new approach to shelter — a geodesic structure encompassing a large volume with one-three-hundredth the weight per cu ft of the equivalent in conventional dwelling. A similiar structure developed in 1950 is being considered for the garden of the Museum of Modern Art in New York. 8, a quarter-century cycle nears completion: Fuller watches a Marine Corps helicopter air-lift a 30-ft dome during a 35 mph wind at Raliegh, N. C., headquarters of Geodesics, Inc. and Synergetics, Inc., two research and development corporations founded to further his work

4



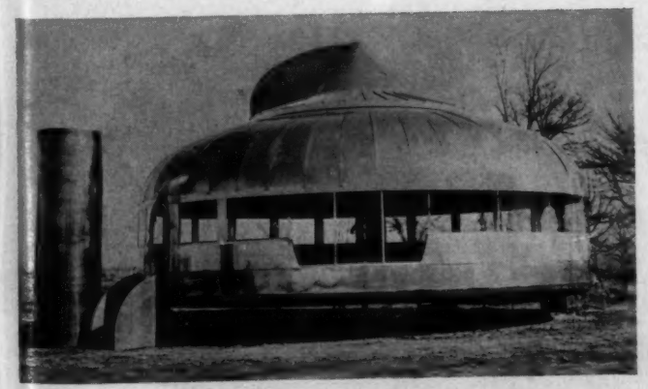
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6



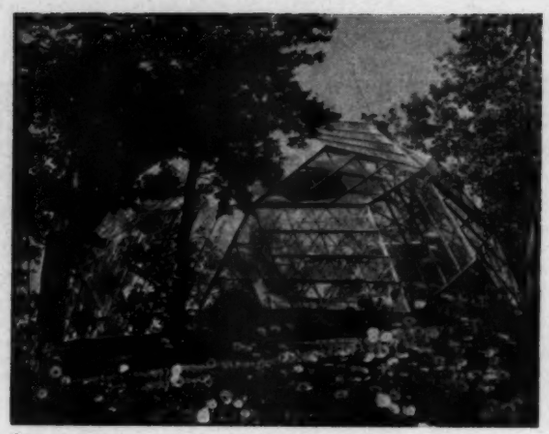
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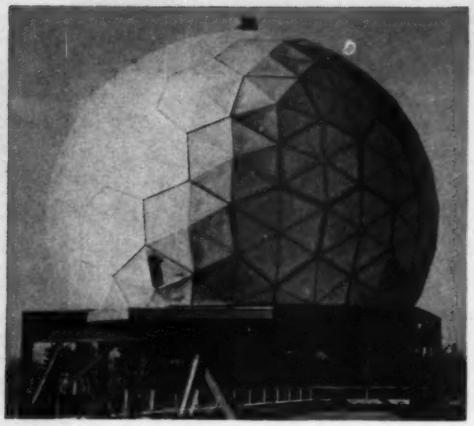
BUCKY FULLER: CURRENT APPLICATIONS



1, 2



3



4

5



Charles Eames

1, *a 36-ft dome made of paperboard (1954), is one of two exhibited at the Triennale in Milan, Italy. This model was developed as a vacation house. Above it,* **2,** *a helicopter air-delivering a 50-ft dome at 60 mph; on the ground this was used as a hangar for three planes at Quantico Marine Base, August, 1954.* **3,** *dome covered with Mylar plastic was used as a restaurant by Architect Gunnar Peterson (1953) in Woods Hole, Mass. This structure withstood the full force of Hurricane Carol, whose destructive effect on conventional buildings was widely reported in the U. S. press.* **4,** *a 31-ft polyester, glass-reinforced three-quarter sphere radome, designed and produced by Geodesics Inc., Cambridge, Mass.* **5,** *the "Sky Eye" is a three-quarter sphere radio telescope developed in 1954, so light it will float in water on its own struts of Fiberglas-reinforced polyester resin*



1



2

Bucky Fuller's impact on college students is phenomenal; he has lectured, conducted seminars and inspired projects on campuses virtually all over the country. **1,** *University of Minnesota students assembling a 40-ft sphere of polyester-fiberglas struts fabricated by them in the school shop. Minnesota has prepared an exhibition of Fuller's work for display during the A.I.A. convention this month at Minneapolis.* **2,** *a 42 ft, five-eighths sphere, designed to fold and unfold like an umbrella, fabricated by students at Washington University in St. Louis to be flown to the Helsingborg, Sweden, World Trade Fair as the "New Spirit of St. Louis."* **3,** *Bucky lecturing before students at Princeton University*

3





AMERICAN MEMORIAL LIBRARY

Berlin, Germany

ARCHITECTS

Gerhard Jobst, Willi Kreuer,
Hartmut Wille, Fritz Bornemann

AMERICAN CONSULTANTS

Francis Keally, Consulting Architect
Charles M. Mohrhardt, Library Consultant

Kessler



Foto-Gnilka

BERLIN LIBRARY

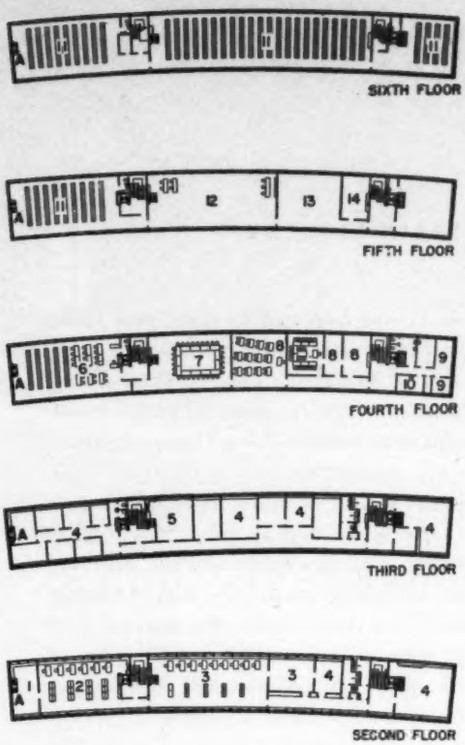
THIS NEW LIBRARY in West Berlin has more than lived up to expectations (see page 172 and AR, March '53). Of steel and concrete construction, it has a ribbed façade of square black slate panels alternating with windows of the same dimensions; off-white concrete ribs separate the two, and monotony is avoided by the mosaic pattern of the slabs, formed by small pieces of varying shades. Reading room is 273 ft long, unpartitioned except for glass wall enclosing children's room; ceiling slopes upward from inner to outer wall and has skylights along inner wall for maximum daylighting; flooring is rubber, ceiling is covered with sound-absorbing material.

Wolf Hejne (also photo p. 169)





Upper floors are only 30 ft wide, assuring good daylighting for every room. Basement provides stack space for approximately 350,000 volumes, top two floors for another 170,000. Booklifts from basement were planned for either rearrangement or numerical increase; four are currently in operation, openings in reading room floor permit sixteen. Library school occupies half of fourth floor, includes classroom for 30 students



SECOND TO SIXTH FLOORS

1. Typing
2. Catalog Dept.
3. Accessions
4. Offices
5. Conference
6. Local History
7. Discussion
8. Library School
9. Telephone
10. Photo Laboratory
11. Stacks
12. Distributing, Checking
13. Printing
14. Bookbinding

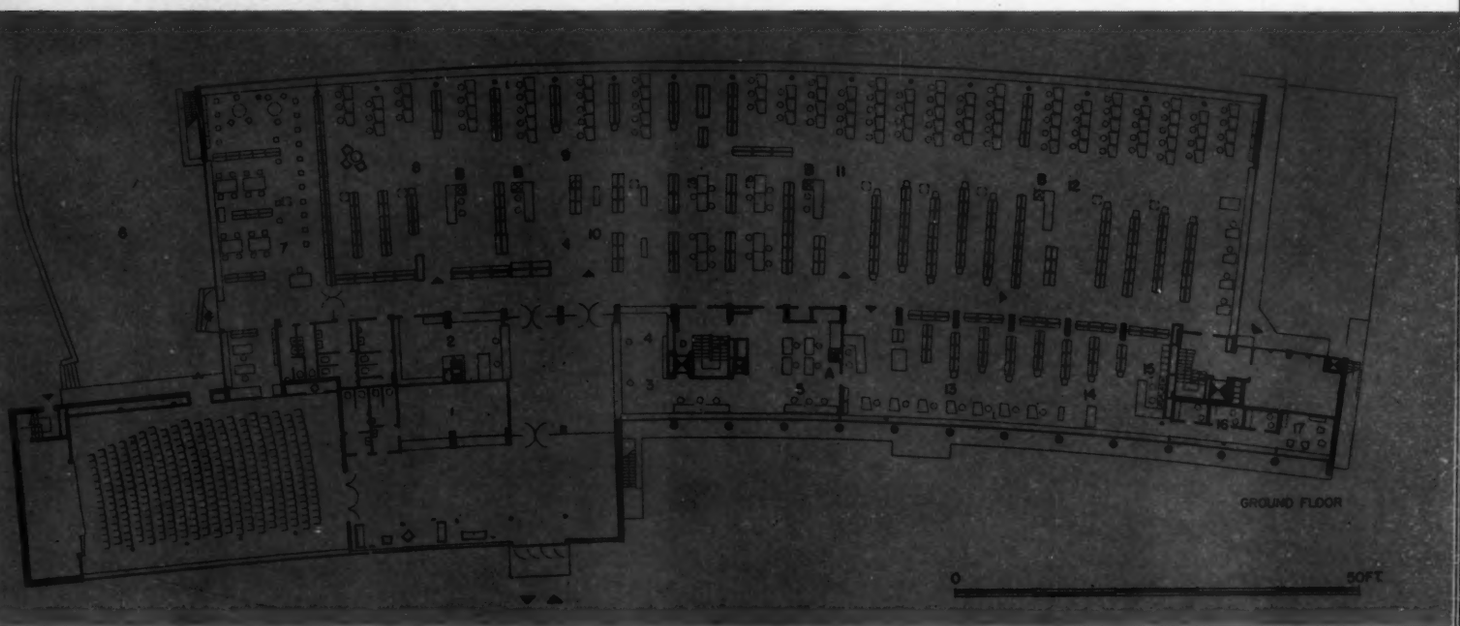
A. Booklifts & Pneumatic Tubes

GROUND FLOOR

1. Check Room
2. Charge Desk
3. Return Desk
4. Readers Registration
5. Staff Work Room
6. Terrace
7. Children's Library
8. Fiction & Popular Non-fiction
9. General Reference
10. Author Catalog
11. Humanities
12. Science, Law, etc.
13. Fine Arts, Theater
14. Music
15. Record Player
16. Listening Booths
17. Piano Studio

A. Booklifts & Pneumatic Tubes

B. Movable Desk with Booklift

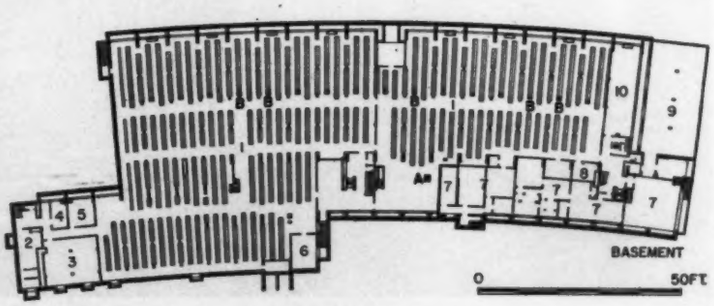


BASEMENT

1. Stacks
2. Air Conditioning
3. Storeroom
4. Dispensary
5. Superintendent
6. Janitor
7. Mechanical
8. Switchboard
9. Coal Cellar
10. Work Room

A. Booklifts & Pneumatic Tubes

B. Booklifts to Reading Room



BERLIN LIBRARY

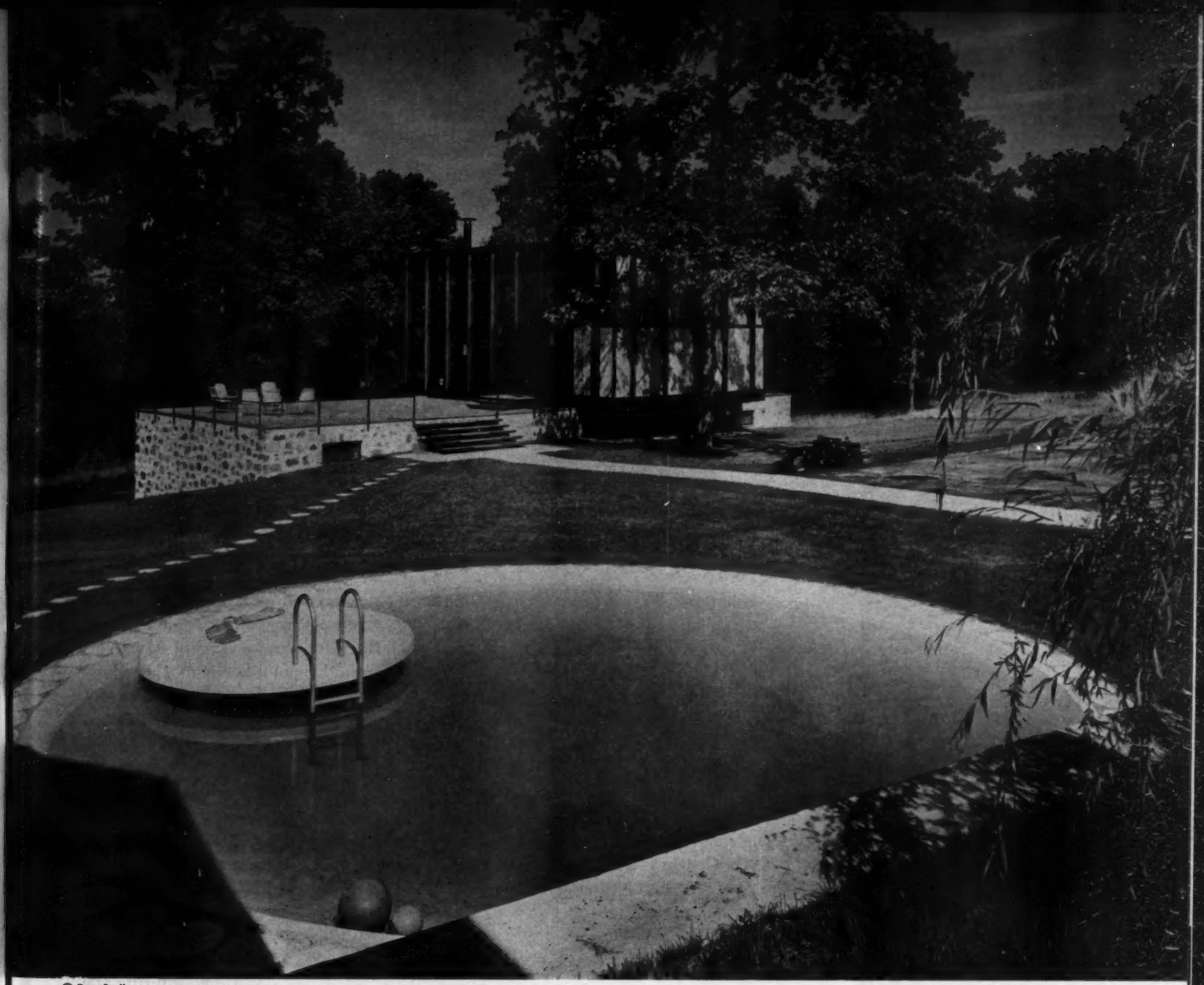
Library was built and equipped with funds granted by United States Government in recognition of West Berlin's gallant stand during blockade of 1948–49; memorial plaque at one end of entrance lobby quotes Thomas Jefferson on founding of University of Virginia: "This institution will be based on the illimitable freedom of the human mind. . . ." Main reading room is directly opposite entrance, reached through inner lobby with checkroom and control desks; auditorium entrance is at left. Auditorium seats 327, is fully equipped with stage, slide projector, tape recorder, etc. Library was opened in September '54; within its first two months it issued cards to 25,572 readers and circulated more than 117,000 books; its reading rooms are always crowded







Kessler

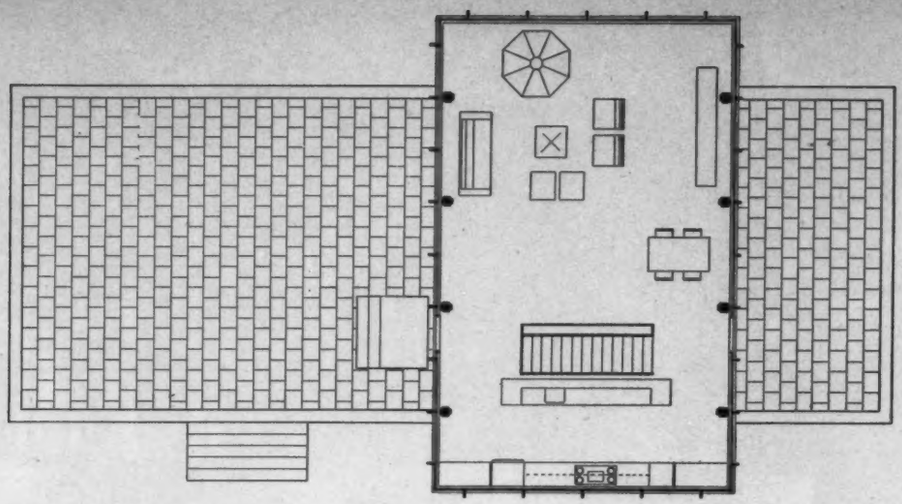


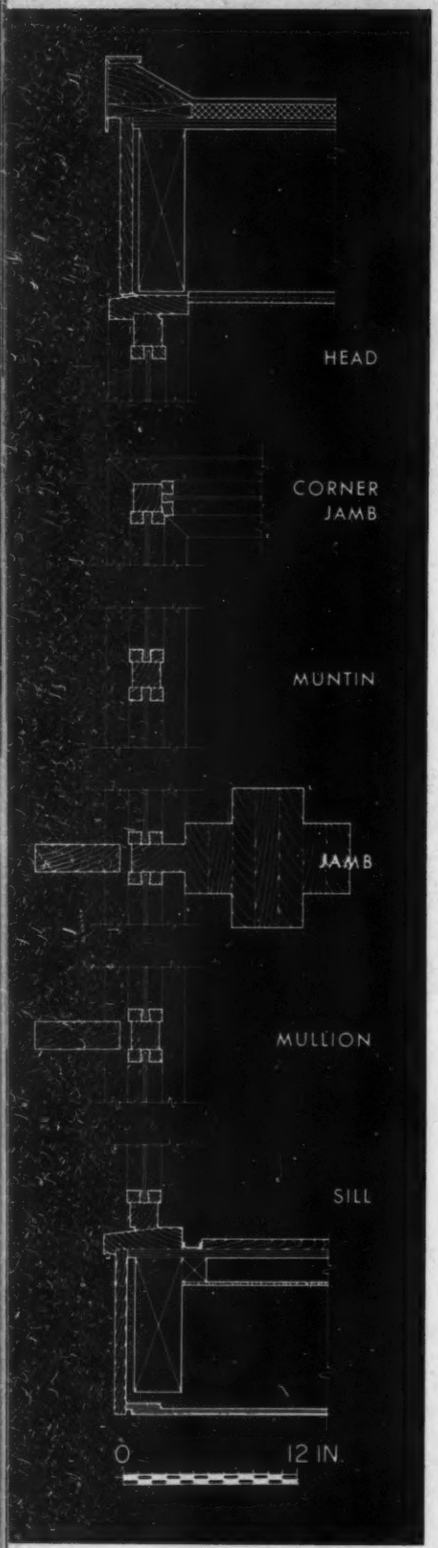
© Ezra Stoller

A CLEAR-CUT EXPRESSION OF THE DOUBLE LIFE

The Wiley House, New Canaan, Conn., Philip C. Johnson, Architect
Richard Kelly, Lighting Consultant; John C. Smith, Contractor; Eipel Engineering, Structural Consultants

THERE HAVE BEEN many schemes to deal with the double character of typical family living; i.e., the every day business of rearing children, eating, relaxing and sleeping — and the apparently disparate activity of entertaining friends and guests as graciously as possible. Among others, there are: the "zoned plan," the "family room," the "parlor," the "open plan," etc. This particular design sharply separates the two functions; places a formal wood and glass pavilion (the parlor) atop the more casually arranged family element below. A throwback to the Victorian, perhaps, but with the added element of a second kitchen; an idea the architect describes as "the key to the scheme — the trick that makes it work."





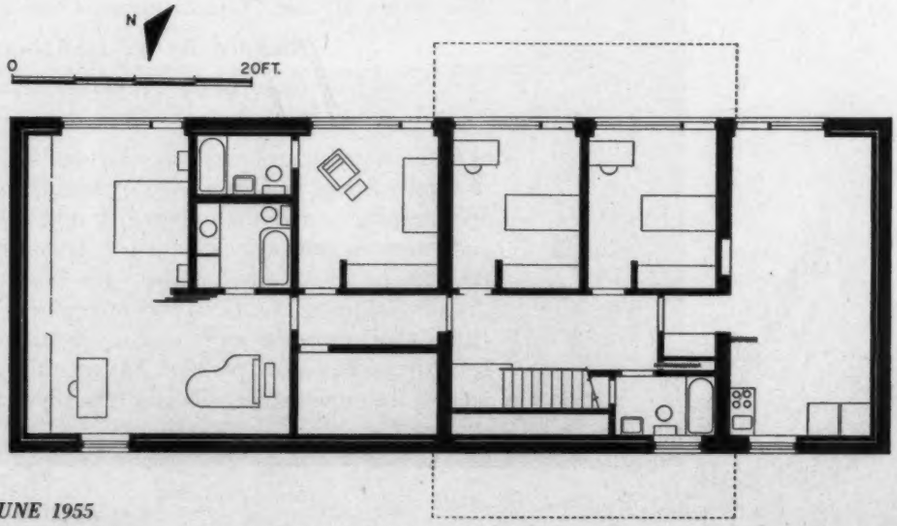
Architect Philip C. Johnson says:

"One more attempt to reconcile the (perhaps) irreconcilable: modern architectural purity and the requirements of living families. Why can't people learn to live in the windowless spheres of Ledoux or the pure glass prisms of Mies van der Rohe? No, they need a place for Junior to practice piano while mother plays bridge with her neighbors; they need a Victorian parlor where they meet only to entertain. What kind of form — I ask you — can an artist bring forth with these crowded commitments to consider?

"One answer might be a retreat to the design of undifferentiated spaces — a series or a suite of rooms as in the 18th Century; some for sitting, some for sleeping, etc., but that hardly satisfies today; we still seem to want a bigger living room than sleeping room. We do not need to be as differentiated as the late 19th Century with its billiard room, drawing room, dining room, breakfast room, etc., but unfortunately, we cannot yet, *en famille* at least, sleep in the common area. Such a Utopia becomes a totally impracticable one.

"The Wiley house 'solution' of placing private functions below in a sort of podium to the 15 ft ceilinged public pavilion above gives the architect great freedom. The client can design downstairs as he pleases. Without injuring the proportions in the slightest, Mr. Wiley added six feet on the playroom during construction. The architect can design the pavilion above.

"The high glass pavilion is framed in laminated timber, and all the window frames are timber stained dark. The effect from inside — quite opposite to that







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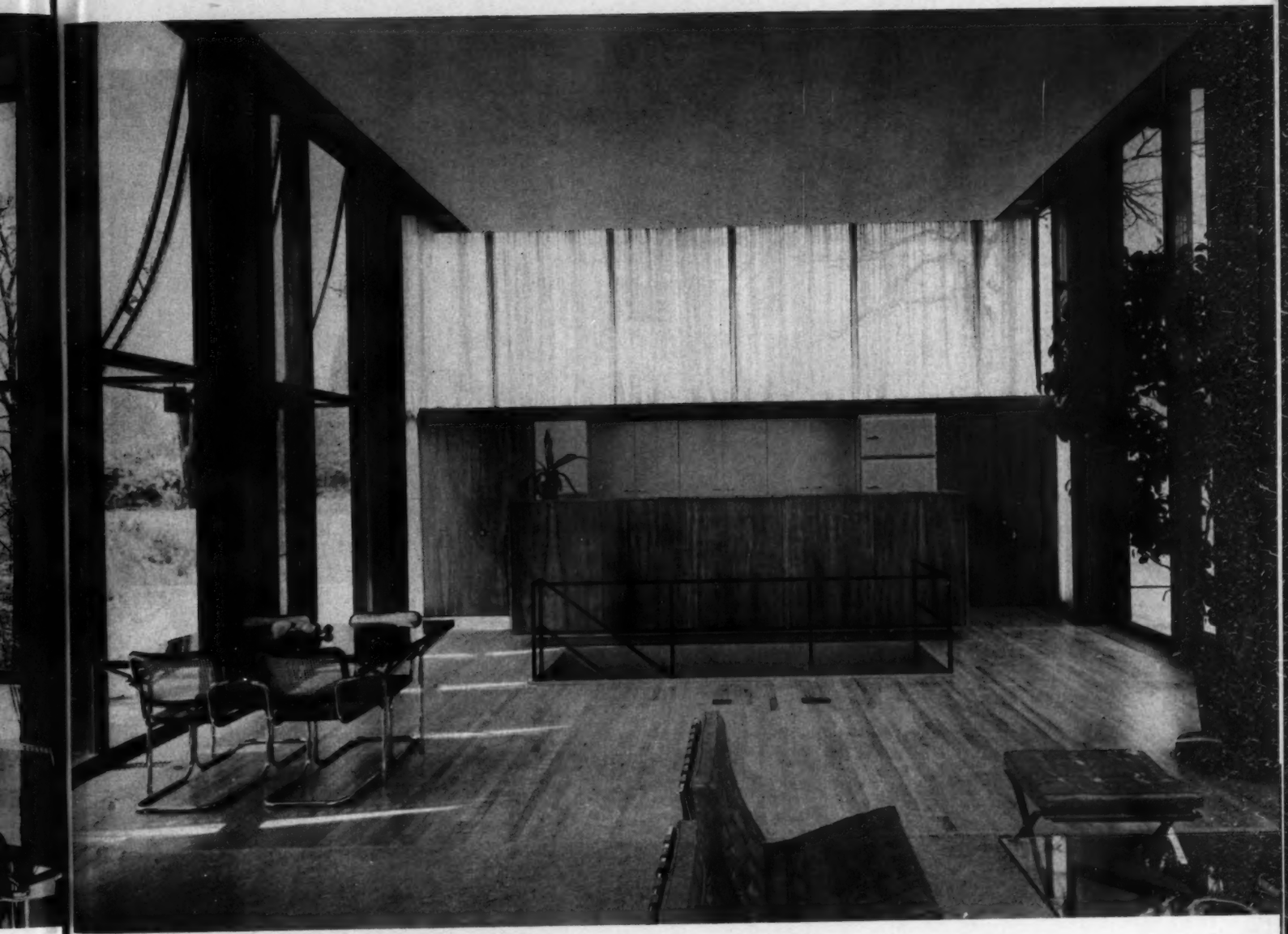
Architect Philip C. Johnson (continued):

of my glass house — is that of a cage. No indoor-outdoor nonsense. The 15 ft ceiling frees the view into the high hickories which surround the house and which at night make fantastic white traceries against the black sky. Note: the fireplace — an experiment — draws well, but let readers beware of copying; too tricky."

● ● ●

There was a conscious effort to conceal the elements resulting from mechanical, drainage and electrical systems. The flue was eliminated by locating the heating plant in an adjacent barn (which had to remain) and piping the hot water to a heat exchanger in the lower wing; vertical 2 by 2 aluminum tubes within certain mullions handle roof drainage and kitchen exhaust air.

UNITED STATES AIR FORCE ACADEMY





© Ezra Stoller





© Ezra Stoller

Above are two views of the master suite and a glimpse through the corridor toward the playroom and informal dining space. At this lower level, the floors are wall-to-wall carpeted; ceilings and walls are plaster; the wood sash are stained to match the upper floor wood; hardware is satin chrome.



UNITED STATES AIR FORCE ACADEMY



Model Photos © Ezra Stoller, Renderings by George Cooper Rudolph

SKIDMORE, OWINGS & MERRILL, ARCHITECTS-ENGINEERS; *Moran, Proctor, Mueser & Rutledge of New York, Robert & Company Associates of Atlanta, Syska & Hennessy of New York, Consulting Engineers*

ARCHITECTURAL CONSULTANTS TO AIR FORCE SECRE *Welton D. Becket, F.A.I.A., of Los Angeles; Dean Belluschi, F.A.I.A., of the School of Architecture and P of the Massachusetts Institute of Technology; and Eero S F.A.I.A., of Bloomfield Hills, Michigan*

DIRECTING OFFICERS AND AGENCIES — *The Honorable*

El Paso County, Colorado



TARY—
Pietro
Planning
aarinen,

Harold

E. Talbott, Secretary of the United States Air Force; General Nathan F. Twining, Chief of Staff, United States Air Force; Lieutenant General Hubert R. Harmon, Superintendent, United States Air Force Academy; Major General L. B. Washbourne, Assistant Chief of Staff, Air Force Installations; Colonel A. E. Stoltz, Director, Air Force Academy Construction Agency; Ellery S. Husted, Consultant, Air Force Academy Construction Agency

"Little Acropolis" — architectural concept for A integrates a series of plains high in the Rockies, rugged peaks of the Rampart Range, to achieve a g site, arranged to centralize cadet activities and separate from and visible to visiting public. In m at right, reading clockwise from upper left: Chap tion Building and Social Center, grouped aro Honor"; three-unit Cadet Quarters; Academi Building; Cadet Dining Hall; upper right, Phy Building and Basketball Arena; in center foreg

ARCHITECTURAL CONCEPTS for the nation's newest service academy were previewed last month in a special exhibition and tour of the site arranged by the Air Force for Members of Congress, the press and other invited guests. Drawings of the master development plan and four models, each ten by fifteen ft, provided a first look at the architects' response to the challenge Nathaniel A. Owings said is "to produce for generations to come — not just for today or fifty years hence — an efficient, flexible and simple solution to the design of your Academy; and yet — and above all — beautiful, lastingly beautiful."

High up in the Rockies — elevations range from 6235 to 7900 ft — in the foothills of the Continental Divide seven miles north of Colorado Springs, the site includes nearly 17,500 acres of mesas and valleys offering vistas of rugged grandeur in every direction. Respect for an assertive and incomparable natural environment was the architects' first principle and — they have estimated — fifty per cent of the design.

The Academy proper — "cadet academic area" — has been given the most dramatic situation of all: a natural mesa in the northwest corner of the site, formed by "a perfect series of plains" that make "a veritable Acropolis," in the architects' words, for the spiritual center of the project.

Against a landscape of monumental splendor, the buildings — except for the Chapel — will be simple, even strict in design: architectural tools for a rigorous training program. Open or glazed exterior galleries around key buildings will allow public observation of the cadets and let them, in effect, serve as moving adornment.

Underlying the whole development plan are two basic concepts: first, to provide efficient, comfortable and simple facilities for the cadet and academic community; second, to provide adequate facilities for families and guests of cadets and other visitors. The concept will provide the public with excellent views of the Academy, both from Colorado-U. S. Highways 85–87 and from a perimeter road encircling important elements of the institution.

Structure will be reinforced concrete, thin wall construction; a 3 ft 6 in. module has been used throughout. Materials will include marble, granite, travertine and native stone as well as steel, aluminum and glass.

Initial construction of the $126 million project will get under way this month, when preliminary work on a road system will be started. The Air Force estimates that the Academy will be sufficiently complete by Fall 1957 for the student body to move there from the temporary facilities at Lowry Air Force Base, Denver, where the first class of 300 cadets will enter July 11.

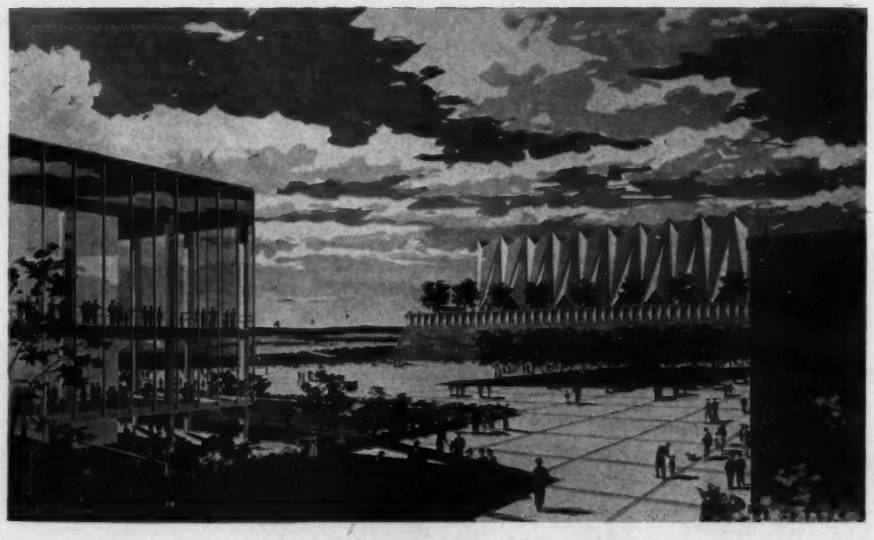


ncept for Academy proper he Rockies, flanked by the achieve a grandly dramatic vities and keep them both blic. In model photograph left: Chapel, Administra- ouped around "Court of Academic and Library right, Physical Education nter foreground, Hospital



Siting of cadet area gives Chapel a dominant location the architects liken to that of Mont St. Michel. Rendering at left suggests the series of plains that form the site — cadets march from Court of Honor, 50 ft below Chapel, across main campus, 25 ft below Court of Honor, past Cadet Quarters (end of easternmost unit visible at right) and down along pool bordering Library (at left), another 25 ft below the campus. Parade ground (see rendering bottom right) is still another 35 ft below. A series of terraces and broad, easy ramps will connect the various levels. Retaining wall below Chapel, and the others to be built all around the mesa site, will be of native stone

Design for Chapel, still under study, is proposed as counterpoint to discipline of other Academy buildings. As presently conceived, structure would be space frame of thin strips of aluminum filled in with narrow slabs of marble, giving the façade something of a mosaic affect; stained glass would be used not only at both ends and for side windows but for openings along ridge of roof. Entrances would be at sides, interior divided to provide 1650-seat Protestant Chapel and 600-seat Catholic Chapel on first floor, meeting room for Jewish services on level above. Social hall (at left in rendering) will have open galleries on all sides. Lowest of three levels will be mainly for cadet use





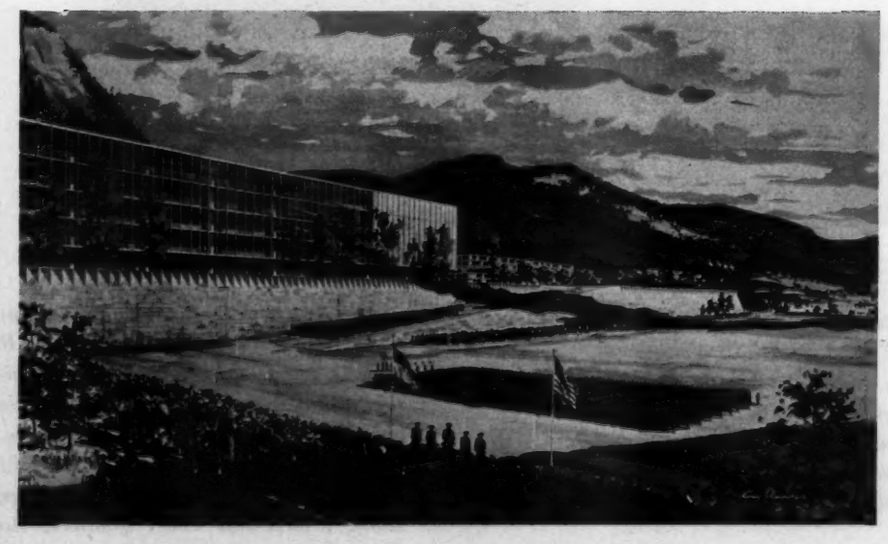
Cadet Quarters are at left, above retaining wall, Basketball Arena lower right, in this view of model. Quarters, 1800 ft long, 250 ft wide, are planned to utilize a hillside site by providing two basic buildings, one above and one below an open arcade at main campus level. Design is based on projected organization of cadets into six groups of four squadrons each, will provide for squadron and group integrity by allowing for each group to be located around a quadrangle on two floors. Cadets will be assigned two to a room, with 300 sq ft allowed for each two men. Basketball arena is conceived as free standing concrete bowl to seat 7500 housed in square glass and steel structure 250 ft by 250 ft



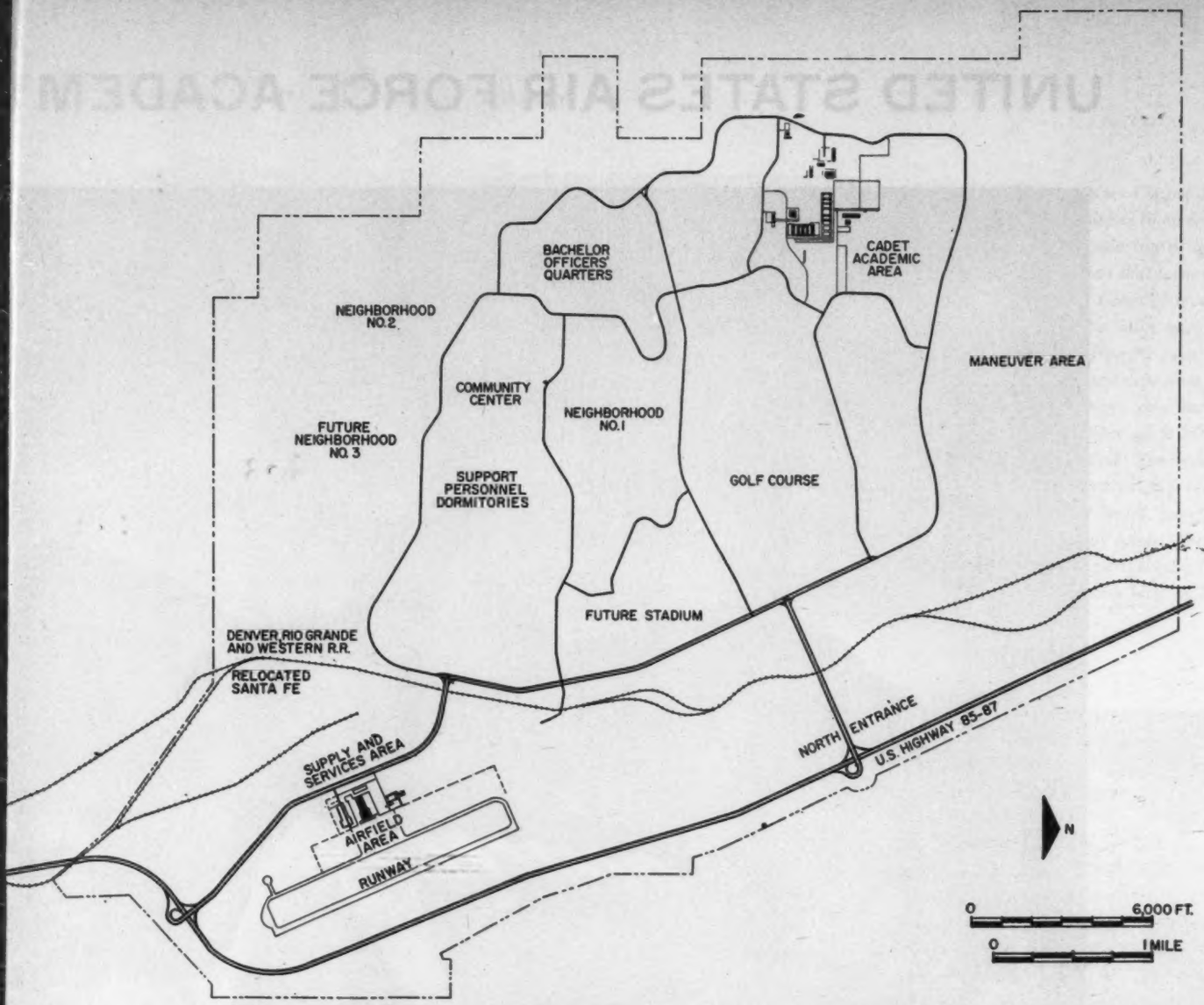
Housing for members of the Academy staff, support personnel and their families will be located midway between the two principal places of employment at the Academy — the academic area and the airfield and service areas (see sketch of site plan). Model photograph at left shows part of Community Center (foreground) and support personnel housing for single airmen, which share the high mesa between the two main housing areas, where family housing for officers and support personnel will be arranged in "neighborhoods." Each three to four neighborhoods will have an elementary school within walking distance. Community Center will provide shopping, recreational and religious facilities

Airfield Area is designed to be base for cadet training in navigation and piloting "indoctrination" — selected cadets will receive full-scale pilot training at regular Air Force flying schools after graduation from the Academy. Facilities have been placed along the flight line to form a compact arrangement which can be expanded from the center. They include the only academic building outside the Cadet Area, a navigation and flying training building which will serve as a laboratory and briefing area before and after study flights. The single runway, 8800 ft long and 200 ft wide, is expected to be usable 95 per cent of the time, so consistent are the prevailing north-south winds





The Parade Ground, east of the campus area, will be reached by a ramp down which the cadets will march to formal parades. Above it (top left in rendering), the Academic and Library Building, containing all the facilities required for the educational aspects of cadet training except for the specialized laboratories at the airfield. Again a hillside site has been utilized to divide the building into vertical elements — specialized classrooms, laboratories and lecture halls on the lower level, regular classrooms and laboratories on the middle level, offices on the top level. Glass-enclosed outside galleries will provide for circulation in Humanities and Science units; ramps within courts connect levels


BACHELOR OFFICERS' QUARTERS
CADET ACADEMIC AREA
NEIGHBORHOOD NO. 2
MANEUVER AREA
COMMUNITY CENTER
NEIGHBORHOOD NO. 1
FUTURE NEIGHBORHOOD NO. 3
SUPPORT PERSONNEL DORMITORIES
GOLF COURSE
FUTURE STADIUM
DENVER RIO GRANDE AND WESTERN R.R.
RELOCATED SANTA FE
SUPPLY AND SERVICES AREA
NORTH ENTRANCE
U.S. HIGHWAY 85-87
AIRFIELD AREA
RUNWAY
N
0 6,000 FT.
0 1 MILE



Ansel Adams

WHAT MAKES A GOOD SCHOOL BUILDING?

by Frank G. Lopez, A.I.A., *Senior Editor, Architectural Record*

This article is published as a public service at the suggestion of, and in close collaboration with, the Subcommittee on "What Are Our School Building Needs?" of the Committee for the White House Conference on Education. It may be used by any of the several state and regional conferences on education as they may desire. It should be noted that the Commitee for the White House Conference on Education has taken no position regarding Federal, State or local authority over school building expenditures, and that statements in the article on this subject are attributable to the author. The article has been reviewed by Professor W. R. Flesher, Consultant to the subcommittee on building needs, President of the National Council on Schoolhouse Construction and Head of the Division of Administration and Finance, Bureau of Educational Research, Ohio State University; and by the Committee on School Buildings of the American Institute of Architects.

Is There One Ideal School Building?

School building requirements are rooted in local problems, and a good school is, among other things, one that leaves no local need unsatisfied. While education in all parts of America has the same goals, and although we strive to bring all our children to maturity with equally satisfactory opportunities to grow in experience and in capacity to reason, there are — thank goodness! — many ways to reach these ends. Such healthy differences of opinion and varying educational philosophies mean that while for each individual school there may be an ideal building, none can be called the ideal for all. Each locality or community or school district — often guided, it is true, by state or national organizations or departments yet nevertheless making its own decisions — delegates to its local board of education the job of formulating educational policies that suit its needs. Each board selects superintendents, principals and teachers to advise it, to administer the policies and to instruct, using the school building, its grounds and other facilities (that is, the school plant) as they do so.

How Is a Good School Building Obtained?

The architect and the educator must work together to provide a good school plant, each recognizing the unique contribution of the other. The architect's function can be stated simply, though in practice it is highly complex. His is the responsibility for designing a building that will do for the community what the community needs done, in a manner and at a cost appropriate to the community's situation, and for overseeing construction from start to finish.

Of the many factors which contribute to a good school plant, no one can be considered unimportant. Determining educational aims; selecting an architect; formulating needs in terms that can be translated into designs and so become the school's physical plant; selection of a site; development of the design to fit that site as well as the community's philosophy and pocketbook; determination of appropriate building materials, finishes and equipment; selecting teaching equipment of all kinds; purchase of operating supplies; making provision for maintaining the plant properly so the considerable investment of time, work and money is protected; selection and, if necessary, training of personnel — all interact so intimately that though their importance varies none can be neglected. Nor can good buildings alone guarantee a good school, though they facilitate its attainment greatly.

Suppose the custodian — or building engineer or janitor or whatever he may be called — does not understand complex modern mechanical equipment. He may cause an expensive, potentially valuable heating system to malfunction, if not to break down completely. Sometimes a site must be used even though it is far from ideal. The worst, however, can be imaginatively used — its faulty orientation turned to advantage by, possibly, reversing the normal position of a school's parts; a steep slope utilized by building in small units rather than one big mass, or by developing buildings part multi-story, part single story. This kind of study will be seen to have a positive bearing on building design.

Bridging the gap between existence of school building needs and the start of school building design, although it sounds simple, presents a serious problem. We have also spoken of it a couple of paragraphs back as: *formulating needs in terms that can be translated into designs.* An architect sums up this process in the one word *programming*, in which he includes the essence of a community's nature and its beliefs concerning education, much of what the educational specialist calls an educational specification, all that the school administrator requires in the way of spaces, rooms, corridors, etc., individually and in their numerous interrelationships, and everything each teacher needs so that each

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The author, in addition to his position on the editorial staff of ARCHITECTURAL RECORD, *is a member of the American Institute of Architects and of the American Association of School Administrators, a Department of the National Education Association.* *He gratefully acknowledges the large quantity of ideas and information derived from the work of the country's leading educators and architects; in particular, he thanks N. L. Engelhardt, Sr., educational consultant, for permission to incorporate in the article portions of a forthcoming book, "School Planners Handbook," by Engelhardt, Engelhardt and Leggett.*

pupil may have the greatest opportunity to attain an education.

Stated thus, programming is hardly as simple a process as it may have seemed. Before an architect can provide a design, decisions are necessary, decisions as to what kind of school, for what age level, for how many pupils, to fit them to what degree for what kind of place in what kind of society. Is the school to be a stepping stone to higher levels of scholastic attainment? Conversely, is vocational or terminal education to be emphasized? Is the community a pioneering one, growing fast in response to social, economic or industrial needs? Is it relatively stable, and hence desirous of having a relatively conservative educational plant? How much will adults use the plant? The answers to these general questions are difficult to ascertain even within very broad limits of accuracy; yet they are judgments which have to be made with care, using all the bits of knowledge from all the sources of information — statistics, conversations, discussions, surveys formal or informal — that may be available. They directly affect the nature of school plants. From them are derived all the specific data which an architect needs if he is to produce blueprints and specifications from which a building can be built. Even more important, however, no school plant can hope to display those qualities of heart and soul, of attractiveness, of appeal, which foster pride in every member of the school community from grandparent to kindergartner, unless these judgments are soundly based and sympathetically interpreted. This is partly the community's responsibility, partly the educator's, and partly the architect's.

Ideally, it is true, the community and the educator, between them, furnish the architect with a program. Certainly, even if the architect formulates it (and he often does) the major share of responsibility for it remains the community's, while the responsibility for its execution is the architect's. The educator's responsibility is dual; he is the trusted mentor and the public servant, a professional whose guidance is essential during the programming process so that, when it is built, the school plant will function well and become both a satisfying tool for learning and a true source of pride and joy to the entire community.

How Are Quality and Cost Measured?

Today more than ever the school board wants the most in working building for its hard-to-get dollars. The local tax rate and the good graces of neighbor-constituents are important; board members, too, pay their share of taxes and desire to live in harmony with their fellow citizens. At the same time they have also a mandate to spend, not too little, but just the right amount. It is all too easy to cheapen a school structure so much that maintenance costs will soar year by year, so that in perhaps five years or less a school plant either becomes so expensive to keep in habitable condition that additional school construction to keep pace with demands cannot be started; or maintenance is neglected and the buildings fall into serious disrepair.

There are respects other than structure alone in which sound architectural quality merits consideration at least equal that given to economy. The students, the teaching and administrative staff, and the entire community are affected both as individuals and as groups, and in their relationships with each other. If this seems to place the buildings which make up a school plant on a pretty high architectural pedestal, consider how many people are affected in one way or another, for how many hours out of a year, by school buildings. What others have so intense, so personal an importance to so many?

Virtually every member of a community shares the school tax load. In most communities the school building program is the largest single expenditure of public funds. We are rightfully proud of school buildings that are soundly built, that serve their purposes well during their useful lifetime, and that satisfy esthetically. A school building has intrinsic importance, but its site should not be on a super highway because heavy traffic seriously limits its usefulness; again, many a well designed school built in an urban or rural slum has been known to raise its community's standards socially, commercially and physically.

There are many other reasons for community concern with school buildings. The prowess of local athletic teams, opportunities for combating juvenile delinquency, social opportunities for adults (organization meetings, parties, and the like), facilities for the local library, for adult education, even for municipal government — good schools often provide all of these. Inadequate design or poor construction can seriously interfere with the success of such activities. Just as we can not be honestly proud of a shoddy building, just as we should be as ashamed of architectural extravagance as we are of a gaudily overdressed woman, so even the most inexpert layman has a right to insist on even more than architectural adequacy.

Each community's character is different from its neighbors'. We classify communities as rural, suburban or urban, but within these general groups are endless variations and the number of variants is increasing. Industry is decentralizing; the rural school that once served an agricultural community now serves an industrial complex as well. The suburb may be just a dormitory whose adult males' interests are concentrated in a relatively distant city; it may have close ties to the metropolis it serves; it may have life and identity of its own strongly developed, with its "dormitory" aspects subordinated. It may be old, possessed of a strong tradition; rawly new; quiet; bustling; progressive; conservative — and it may be several of these at once. It may be a commercial center, a production center, an educational center, or merely a place where a group of people find it pleasant to live. Whatever its nature, it is probably in the process of growing and changing.

The school that is any good is a reflection of its community's character. In its curriculum, in its administration, and in the nature of its buildings, it mirrors the people and situations which have given it reality. If the community is falsely interpreted, if the people who make the decisions estimate faultily their own present and future condition and needs, if the archi-

tect's design reflects these needs poorly, the school will fail its purpose. A sound estimate, conversely, almost inevitably leads to a more than satisfactory school plant. It is difficult to make this kind of estimate; the best professional advice obtainable is very nearly mandatory. Difficult or not, the estimate and its effects will be operative for many years. The buildings, good or bad architecturally (which means educationally and as civic symbols, too) will stand as nearly perpetual reminders of correct or faulty estimates made now. Another sobering thought: the pupils now actually in school will later be paying the greatest share of the cost of schools we construct.

Does Building Quality Affect Staff Performance?

Nor is mere adequacy sufficient for the task the school staff faces. The best of mechanical equipment may be partially wasted in a school building whose space organization is faulty; a sound plan and fine teaching equipment may have little value in a building whose roof leaks or whose rooms are badly lit or ventilated. It is usually as cheap, even in first cost, to build reasonably soundly though without extravagance, as to build poorly; for a good architect, it is as easy to design well as to plan poorly — and the effects on the teaching staff are immediately apparent.

A school that "feels good" to its teachers is one in which they want to teach. Often this good feeling can be induced or enhanced by encouraging teachers to share in the educational planning for a new building. There are innumerable instances like the situation in Westfield, Massachusetts, where the erection of one new school of high architectural quality resulted in teachers from all the other schools in the city requesting transfer to the new building. The new provided facilities soundly built, well proportioned and arranged ("planned") to meet the needs of the established teaching philosophy, equipped in an up-to-date fashion though hardly overfurnished, and esthetically pleasing in composition. In response, not only were teachers anxious to teach in it, but also the level of teaching quality substantially improved. A part of the answer to teacher shortages lies in providing architecturally good and educationally functional school houses. In the instance cited, a small problem was, it is true, created in the other Westfield schools; at the same time word got around, as it usually does, that the community was improving its facilities. Other new school construction is likely, and additions to the school staff have been somewhat easier to find.

How Does Architectural Quality Affect the Pupil?

More than any item of equipment it contains, the school building itself is to the student an instrument for learning. This obvious prime function of the entire school system is occasionally obscured by preoccupation with practical school matters. Yet, what could be more practical than the demonstrable effects of structure, equipment, space organization and esthetics on the developing child, or on the adult who is using spare time to improve himself?

Building regulations require that the school structure be safe, that it protect its occupants; that much we take almost for granted. Less obvious is the need for privacy in certain educational pursuits, of maintaining satisfactorily small instructional groups, of providing so positively for traffic through the building that people follow the intended routes naturally. These are matters of convenience which good architecture affords; they ease the learning process, making many a modern school a pleasant daytime habitation rather than a source of "Monday morning stomach aches."

Closely allied are contributions to children's physical well-being that come with the well designed school. Ventilation and heating standards have been in effect for years; so have lighting standards, though these last are being thoroughly revised. Such standards have often unfortunately been arbitrary in concept and in enforcement; an inevitable reaction to carelessness in providing light, warmth and air at one time was the cause of their almost universal adoption. Enlightened educators and architects now believe that, as each school site differs, so each technical problem in school design requires individual solution. Orientation, elevation, trees, climate of the locale and the micro-climate of each site are taken into account in good design, with results directly benefiting each student. To consider just one of the many technological aspects: at the Mayo Clinic, investigations have led to the belief that a quarter of an individual's total physical energy is used in the simple task of *seeing*. Poor visual conditions increase the percentage. Such findings are supported also by research at the University of Michigan and at Tufts College. The practical value of correct lighting, natural and artificial, is apparent.

To consider further the same architectural element, light: the quality of a lighting installation is directly affected by the nature of the surfaces that surround a student in a classroom. Texture can cause light to be reflected specularly or to be diffused. Both change the effect of light sources on students. Intensity of color controls the amount of light a surface reflects, with effects of parallel importance. The positioning, area, intensity and relationship of light sources — fixtures, windows, etc. — to other elements of the interior are of at least equal importance in obtaining optimum ease of seeing. Of such considerations, also, are the esthetic characteristics of a classroom interior composed. Generally speaking, a rationally satisfying disposition of all the components of lighting (sources, textures, color and color intensities, and the interrelationships involved) will also be esthetically satisfactory.

Architectural quality thus depends on both the practical and the esthetic, if indeed one can separate the two; and the importance of esthetics to the learning process can not be over-emphasized. Should the pupil mature knowing nothing better than the poor average of things cultural, or even hating his student days for their ugly surroundings?

The words "scale" and "proportion" are often used in assessing buildings esthetically. In schools, we say the buildings are best when "child-scaled." This is a

source of confusion. To some, suitability for students means, perhaps, the coy use of decorations based on yesterday's nursery rhymes, in a manner that an old maid might gush over. But children are realistic animals; they recognize falsity immediately; for their own convenience they may agree with a superior authority as to the cuteness of nursery rhymes while their private opinions may be quite saltily the opposite. The practice of deception thus instituted can easily become self-deception; the child may grow up to believe the coy decoration is really something good. And because his small deceit of authority has once won him praise, is he being well educated to become an upright citizen?

What Are Trends in School Plant Design?

Certain developments in educational theory are beginning to appear, particularly regarding secondary schools, and these are having marked effects on building design. There is an attempt to continue into higher grades the practice of focussing instructional guidance on the individual to a greater degree than has recently obtained. At the same time, efficiency of operation at this grade level is imperative; the secondary school plant is costly and complex, its teaching staff and its operation are expensive. There have been attempts at coördinating the study of groups of subjects, of continuing group activities into the secondary school. There is increasing recognition of the student as a human being. Quite recently a noted educator reported a number of requests from private industry for delaying the start of specialized education; potential employees more fully rounded in the basic general learnings are apparently coming into demand, with technical training put off until later.

These and other trends, some well defined and some tentative, are bound to be mirrored in tomorrow's school buildings. Some effects are visible today. One intermediate school in California (grades 7 and 8) has a large materials and information center where students do research and requisition books, electric ranges, ceramic kilns, etc., transporting them on small trucks to their home rooms, which are quite large and have extensive project areas and counter space. The finger-plan school, developed first in mild climates, has been succeeded in some places by small clusters of from two to six classrooms, for high schools as well as elementary, with the clusters connected sometimes by enclosed corridors, sometimes by mere paths. The monstrously huge high school of the 1920's is being built today as a group of separated buildings, to reintroduce warm human values into school architecture. These examples indicate, also, the trend toward larger acreage for school sites. On the other hand, the cold facts of economics and architectural virtuosity have at times combined to produce school buildings all under one vast roof, with many interior rooms skylighted and partitions largely of glass. Still others are built around pleasant courts.

A recent development in high school building design is the "school within a school," which is simply a group of small secondary schools, each for perhaps 250 to 400 students and each housing portions of all secondary grades. The units are organized around central structures containing services, administrative and instructional areas which can serve the entire compound — offices, gymnasium, and the like. Such a plant can be designed now for construction piecemeal as need arises; future units can be changed as future curricula may demand; the student has a chance to become a force within his small unit which he might never attain in the larger whole. Examples of this type are being built now in Connecticut, Missouri, Maryland and other states.

Can Change Be Accommodated Harmoniously?

The structure must accommodate the educational program for a long span of years. If it is to be built soundly enough to result in low maintenance and operating costs a building will last for decades. So the building should accommodate change; as architects and educators say, it should be flexibly planned. It must do more than function well today, with spaces properly interrelated and proportioned and connected; it must be capable of alteration at low cost, of expansion, or possibly of being contracted or put to another kind of use.

Built-in equipment, then, should be so designed and placed that changes will not impair its functioning; this applies to heating systems, ventilation, plumbing, water supply, electrical services and the like. Teaching equipment, much of it, is portable; fixed items such as sinks ought to be carefully located. In this area it is easy to spend undue sums of money. Today's building services are very complex and expensive. Is the building designed so they can be installed and, later, changed with minimum difficulty? Is each type of installation the simplest, most direct? Is each sufficient, in quantity and quality, to provide the appropriate degree of amenity? It is easy to be over-penurious, as easy as it is to be wasteful. All the while such an evaluation of a design is proceeding, esthetic judgments have been in the making. When the order and organization of parts satisfy logic — that is, when we are satisfied as to their propriety for a given situation — the question, "Is this beautiful?" is half answered. Not always do the results look familiar; if the unfamiliarity is unreasonable it is probably right to question the design on esthetic grounds. On the other hand, if what is unfamiliar is the result of a sound, rational ordering of parts and equipment, in response to the demands of the local educational program and conditioned by such local factors as site, climate and community characteristics, then even a radical building design should hardly be rejected simply because it is radical. Nor should the minute aspects of, for instance, local "atmosphere" or character carry undue weight. It is not necessary to imitate wood moldings of century-old houses in order to bring a school building into harmony with its surroundings. Sizes, colors, textures, kinds of materials, together with such intangibles as openness or closed-in qualities, friendliness or austerity, are much more reliable means to harmony with local fundamentals. A molding or pane of glass is hardly a true guide when the aim is a school plant that is to express a community's highest aspirations for its future.

RELIGIOUS BUILDINGS

FOR THREE GENERATIONS the depressing effect of bad architecture has been visited upon the worshipers of America. Because our church buildings have seldom appealed to our total interests, they have failed to satisfy us. It must be acknowledged that churches share this failure with other building types, but because they are churches the failure seems more poignant.

Most of our buildings have failed because they have not been drawn from and do not express the whole range of man's needs and the experiences which are constantly reshaping those needs. Our buildings are, rather, the expression of our interest in certain fragments of experience, in selected stimuli. At best it is difficult to treat with the whole of any problem. Architects are not alone in their tendency to overlook the evidence of man's total experience in favor of working with those experiences and ideas which happen to be particularly stimulating at the moment. Dealing with parts of experience and parts of ideas is easier. Moreover, by changing periodically the particular set of motivations the illusion of progress may be achieved. It is easier to organize building form if one eliminates many of the considerations which should normally influence form.

Ralph Adams Cram wanted us to shut out of sight and out of mind all our experience since Gothic. Today's architects are little different from yesterday's. We are simply motivated by a different set of exclusive stimuli. It is a rare architect today who is able to resist the fascination of concentrating his interest on a favorite material, shape or system of construction. Too often it is a predominantly intellectual fascination and as such necessarily fatal for the total interests of the people.

For architecture is an art which is apprehended sensually. It is a spatial art whose point of departure is utility and in which vision is the triggering sense. When the spatial and visual solutions to our utilitarian problems can be solved in such a way as to appeal also to our minds, we may achieve an architecture that will satisfy the spirit. But an architecture which tries to appeal to our minds without satisfying our senses or accommodating our activities can never be more than a partially utilitarian, highly personal kind of sculpture.

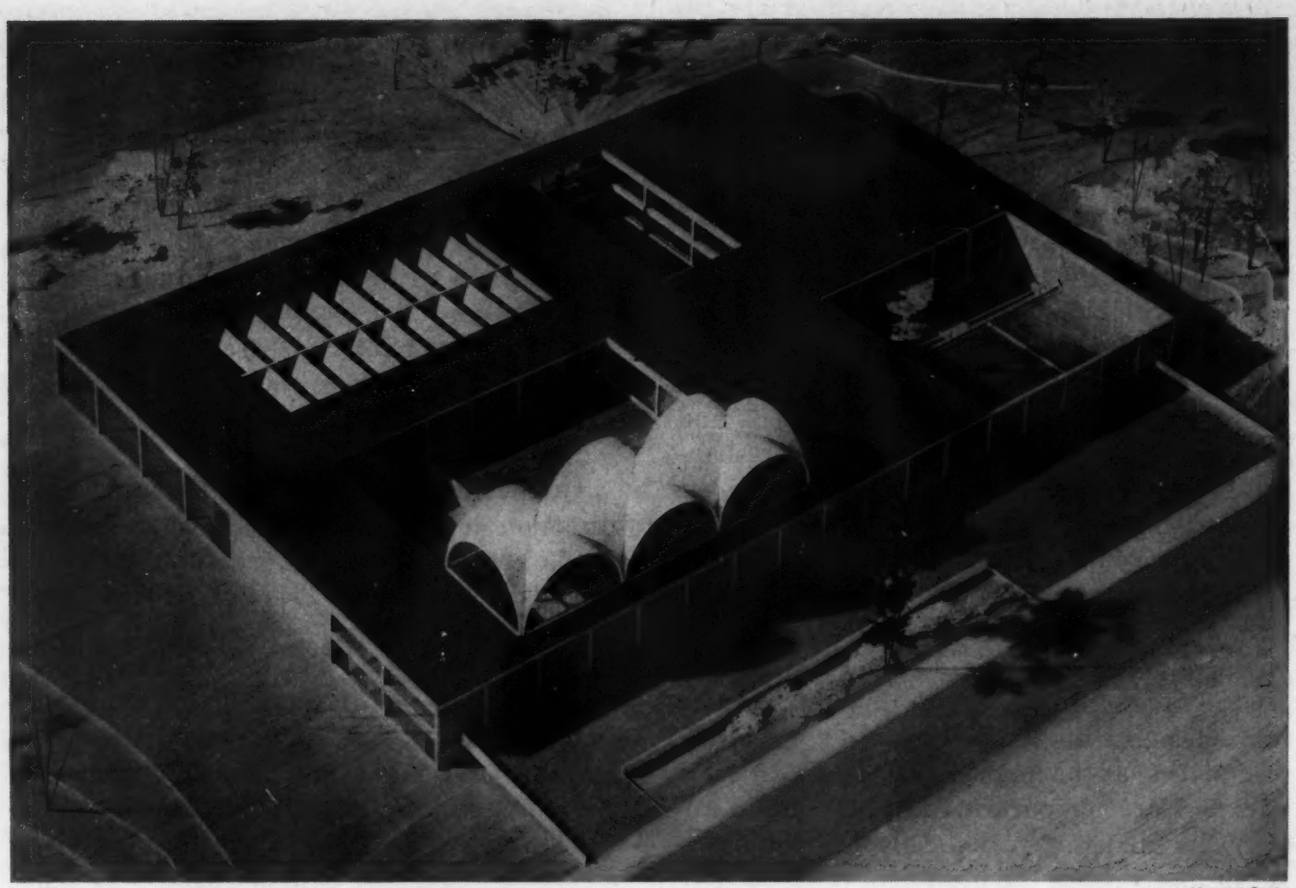
That is where we are today, but we need not remain there. We have still the opportunity to focus first on the spatial, then the structural; on the sensual before the rational. Surely our best interests are served through concentration on those things which have the most pertinence for man and hence — architecture.

In the design of churches the need for a direction of interests which can be shared with clergy, church officials and building committees is more than ever imperative today. Church membership is growing at a rate faster than the population. The buildings demanded by both new and expanding congregations must provide for the whole family throughout the entire week. A much larger proportion of the building budget must be used for educational, recreational and social facilities. New structural methods, new mechanical systems, and new equipment of all kinds must be employed in order to fit the budget and the program and to compete with the attractions of secular activities. Finally a growing interest in the historical meanings of our ways of worship and their relationship to the architecture and art of our churches is forcing the reexamination of the appropriateness of the spatial and visual organizations which we have inherited from the very recent past.

These are relatively new and tremendously challenging determinants. Architects can meet these challenges. If they will, we can look forward once again to a significant architecture. There are signs of it even now and when added to the handful of good churches of the past ten years, there is cause for encouragement. On the pages following there is apparent evidence of architects' concern for how people use buildings and how they respond to them.

John Knox Shear

* GRACE LUTHERAN CHURCH, TEANECK, N. J.

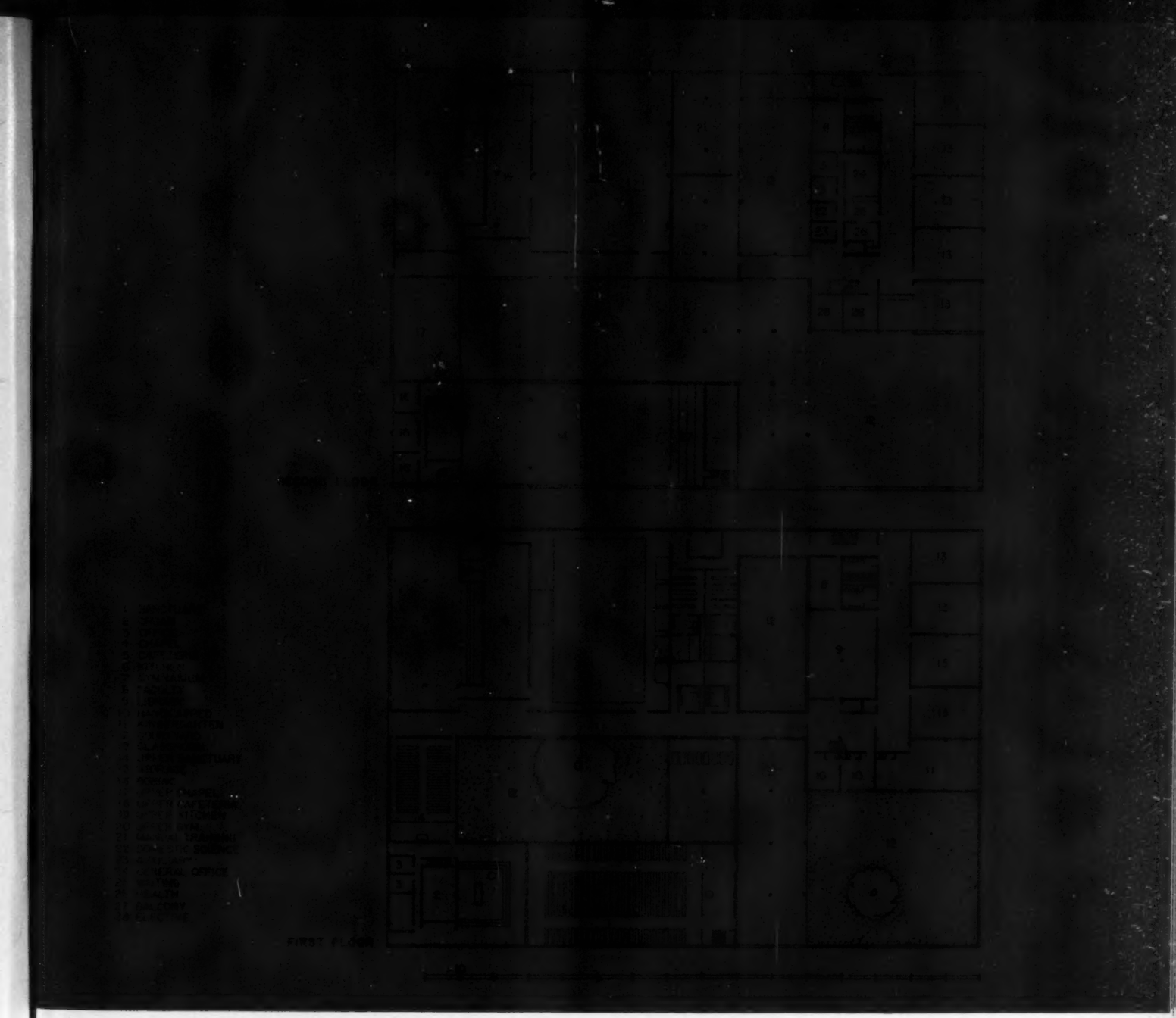


Howard Studio

Paul Schweikher, Architect

** Premiated in the 1955 Awards Program of the Church Architectural Guild of America*

IN THIS PROJECTED BUILDING, all of the problems normally attendant upon the integration of adjunct facilities with the sanctuary are not only present, but particularly insistent because of the necessity of providing for a fully-equipped parochial school plant. Here skillful handling of the courtyard is the great unifying device. An increasing number of architects are finding the use of the courtyard effective in church planning as well as in other building types. Proper organization of such sequestered outdoor rooms affords multiple values for all who use the church. As intermediate spaces arranged to prepare those entering the sanctuary from the street, their role is significant.

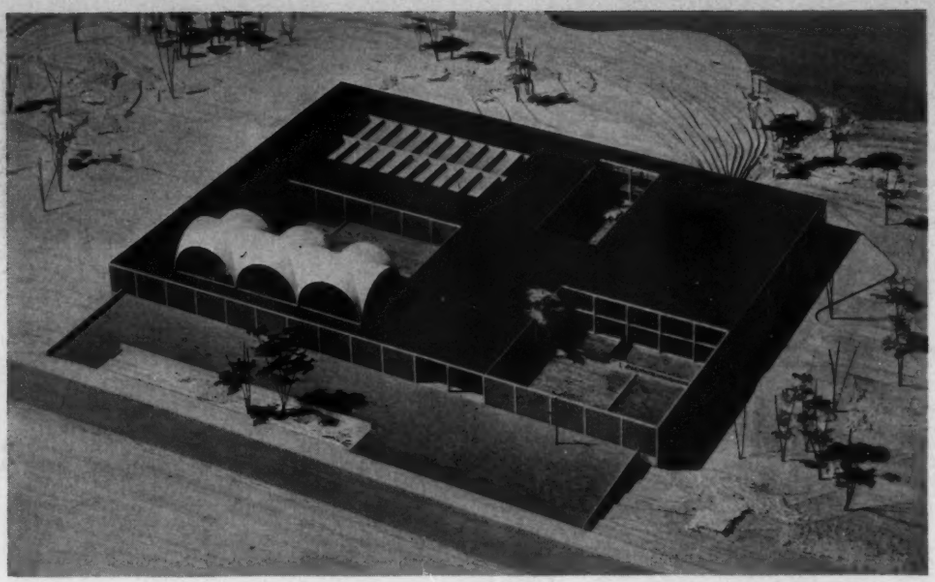


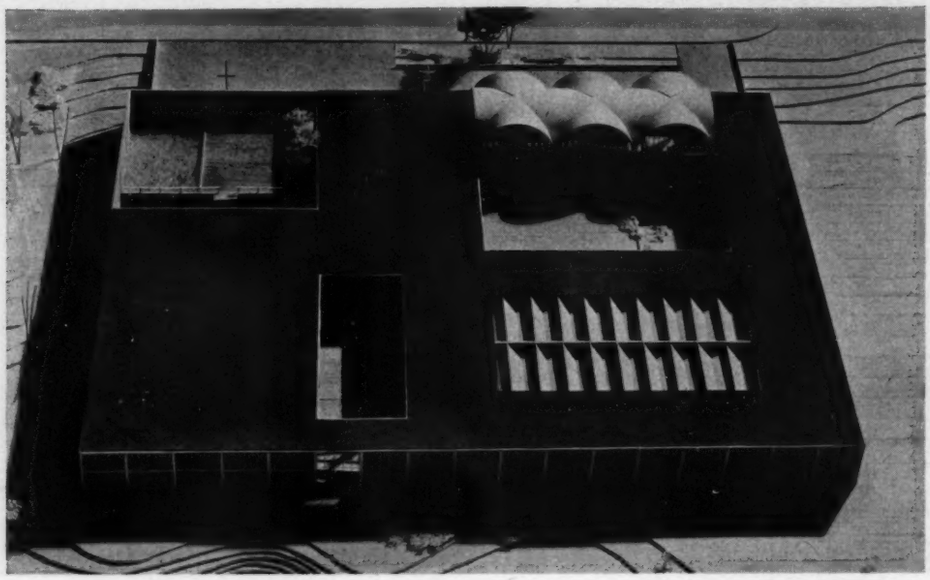
In furnishing informal gathering spaces after services, they serve a time-honored and highly desirable activity. The spatial sensations and the resultant emotional situations that can be experienced in the juxtaposition of indoor and outdoor rooms, are particularly appealing in a building which to a degree must compete with secular attractions. Finally, there is a powerful appeal to the intellect for both architect and church member in the recognition that in the courtyard there is an expression of a long tradition in buildings generally, and churches particularly.

The grouping of all the elements within an enclosing wall and the use of the groin vault forms, further emphasize a strong link with an historical tradition.

Grace Lutheran's Senior Pastor, Rev. Theodore W. Beiderwieden, reports that though unusual, the proposal has excited real enthusiasm in the congregation and among denominational leaders.

Construction on the seven-acre site will begin with the educational unit which is planned for 300 children with two special sections for the handicapped, whose difficulty with stairs dictated ramp circulation throughout the building. This special requirement made still more difficult the architect's job of achieving unity.





Howard Studio

FROM THE ARCHITECT: Mr. Earl P. Carlin of Schweikher's office reports: The structural system is to be an exposed concrete frame with curtain walls of masonry, glass or metal panels between columns.

One of Mr. Schweikher's purposes was to create a separate environment within the walls, not unlike the feeling of medieval monastic cloisters, hence the courtyards providing interior vistas. An additional advantage of this plan makes it possible, for reasons of economics, to build the structure in sections, with each unit complete within itself, eliminating the usual amputated look of partly finished construction work.

Cost (Estimated): $1,000,000
Area: 52,000 sq ft

SEVENTY THOUSAND CHURCHES IN TEN YEARS

By George Cline Smith, Assistant Vice President and Economist, F. W. Dodge Corporation

THE CURRENT UPSURGE of interest in religion is actually part of a long-term trend which has been expressed in rising membership of churches, both absolutely and in proportion to the population, through several decades. Other manifestations of this growing emphasis on church-going, which were noted in an article ("More Church Building Is Required to Keep Pace with Membership Growth") in last December's issue of ARCHITECTURAL RECORD, include a sharp increase in the number of members per church structure, indicating some tendency toward overcrowding, and a rise in church spending and building which seems to offer considerable room for further expansion to meet the demand of a growing, moving and more church-minded population.

The spiritual significance of this trend should be obvious. There is, as well, an economic side to the story of particular interest to architects and engineers.

The economic aspect of the situation boils down simply to this: it is reasonable to expect that in the coming ten years, some 70,000 churches and synagogues will be constructed or substantially altered at a total cost of nearly six billion dollars. In addition, there will be about 12,500 projects involving parish houses, Sunday schools and related buildings costing one and a quarter billion dollars. (Note: these estimates do not include parochial schools, which are classified as educational rather than religious buildings.)

This is considered to be a conservative estimate, in the light of past and present trends. It does make two important assumptions: first, that there will be no severe recession or depression during the period; and second, that there will be no major war. The estimate contemplates an average level of activity over the ten-year period somewhat below that of 1954 and considerably below the current rate in early 1955. It is entirely possible, therefore, that the estimate may be on the low side, in view of our rapid population growth and movement, current prosperity and the increasing emphasis on church-going.

It has been estimated that somewhere in the neighborhood of 5000 architectural firms work regularly or occasionally in the church field. During the next decade, therefore, the average firm may expect to have about 14 church projects at about $85,000 per job, and two or three other religious buildings at about $100,000 each. This adds up to nearly a million and a half dollars' worth of work for the average firm in the church field, during the ten-year period.

These figures are based on contract awards reported by F. W. Dodge Corporation in the 37 eastern states, with an adjustment to take care of the estimated volume of building in the remaining 11 states. The average cost per job is calculated from 1954 reports, and the estimate assumes that there will be no substantial change in the value of the dollar.

Current activity in church construction is running at the highest rate in history. Contract awards for religious buildings in the 37 eastern states during the first three months of 1955 totalled $128 million. That's an increase of 60 per cent above the previous first-quarter record set in 1951, and 61 per cent above the first quarter of last year.

The religious category in the first quarter of 1955 accounted for about 7 per cent of all non-residential building awards. This represents an enormous growth, not only in dollars but in share of the market, during the postwar period. In the corresponding quarter of 1946, the first postwar year, religious buildings totalled only $17 million, and represented just 2 per cent of non-residential building.

The outlook for church building is bright. This is all to the good, because, in the words of Sir Thomas Browne, "They build not castles in the air who would build churches on earth; and though they leave no such structures here, may lay good foundations in Heaven."

* CHAPELWOOD METHODIST CHURCH, HOUSTON



F. W. Seiders

Hamilton Brown, Architect
Scheider Construction Co., General Contractor

** Premiated in the 1955 Awards Program of the Church Architectural Guild of America*

THIS CHURCH is designed to seat 500; to furnish educational, social and recreational facilities for 200 at present, 500 ultimately; and to include a chapel for 100.

The sanctuary building and one-third of the classroom facilities have been constructed. Eventual plan includes two more of the courtyard centered classroom wings with covered passageways surrounding three sides of each court and interconnecting from court to court.

Particularly noteworthy is the fitness of the open courtyard units for a growing church where the budget permits building only one unit at a time. The overhangs of porch and passageways particularly suit the climate.



FROM THE ARCHITECT: This church serves a group of middle-income, young-to-middle-age people living an informal life in an attractive wooded area on the outskirts of the city of Houston.

Foremost in the mind of the architect was the thought that the environment created by the architecture must be closely related to the character of this particular congregation, as well as the form and content of the worship service desired by the congregation.

Emphasis is placed on the altar area of the chancel as the significant aspect of the worship service. Exterior light sources directed toward the altar area are arranged so that the original source of light is not visible to the congregation when facing the altar. Interior lighting for night services has been designed to function in a similar manner.

The materials employed in the construction of the building are in the main used in their natural finish and lend, with their warmth, a character of informality.

The use of music has played an important part in the design of the building. Dramatic use of the choir may be employed through opening the ambulatory to the upper chancel sides and narthex to the upper nave, thus permitting processional music to carry into the sanctuary before the choir's entry.





F. W. Selders

Nave framing is carried out with steel bents. Framing in the classroom wings uses wood trusses. Exterior walls of the church proper are of solid masonry; those of the classroom wings are brick veneer on wood frame. Interior walls of the church are handmade Mexican brick on the nave sides; perforated hardboard acoustical tile at the rear; and fabric-backed redwood staves at the rear of the chancel. Classroom interior walls are plywood. The roof is 4 in. tongue and groove cedar planking, built-up, gravel topped. Floor is cork tile in the nave; carpeting in chancel. Communion rail is in white birch.

Cost: ***$187,174.62 (including pews and chancel furnishings; excluding land, landscaping, furniture and fees)***

Area: ***16,418 sq ft***

CHARACTERISTICS OF TODAY'S CHURCH SCHOOL

By C. Harry Atkinson, Executive Director, Bureau of Church Building, National Council of the Churches of Christ in the U. S. A.

COMPARISON of a present day church building with that of yesterday reveals some striking changes. Adult worship once claimed practically all of every church building dollar. Today, a seven-day-a-week program of purposeful activities for all ages demands facilities running all the way from the babyfold and crib to craft rooms for elder citizens.

Planning for education

Fifty cents of practically every church building dollar are now expended for educational purposes and for a variety of indoor and outdoor recreational and fellowship facilities. A present day church, when planning educational facilities, is giving far greater attention to the details. Rooms are being related definitely to the capacities and interests of each age group; are being planned in relation to each other, with a view to better administration and greater flexibility of use and space. Far more attention is being given to the philosophy of education and to the psychology of the pupils than heretofore, and as a result, the buildings are much more intimately related to the needs and interests of growing and developing persons.

Four basic questions

The questions which the modern church school planner asks of the church school building are these:

Is it healthy, and safe, and comfortable?

Is it designed to further the learning program of children and adults?

Is the space so designed, and is the building so constructed as to permit greater flexibility in the use, and in the greater variety of activities so the educational pattern and the grouping of the children are not frozen?

More particularly, is the teaching space in which children live and work while within the church attractive?

Search for the spiritual

These questions indicate that today's church buildings must be planned from the inside out and must be geared to human requirements; physical, psychological and spiritual. The complicated structure which makes up the modern church is beginning to show a new honesty, efficiency, and esthetic quality by which tangible expression is given of the functions of the church in modern materials and by means of modern methods of construction. The better work today carries with it intimations of the long spiritual heritage of the Christian Church.

Church School conference

A recent three-day conference brought together for the first time architects from various sections of the country, nationally recognized religious educational specialists for each of the age level groups, and the church building executives of the churches comprising the Bureau of Church Building of the National Council of Churches. During this significant conference, certain standards for educational space and equipment for today's church edifice were arrived at. The following statement of the recommended requirements is a far cry from what was acceptable a few years ago.

Creative teaching

Foremost in the thinking of this conference was a concept that teaching is a much more varied, democratic, and creative undertaking than that of imparting information to children and youth while seated about a table in a cramped classroom. Emphasis was placed upon ample space, especially for small children to permit greater freedom of movement, a variety of purposeful activities, and the avoidance of over-crowding — so detrimental to the physical and psychological well-being of children.

The following norm of standards were adopted both as to maximum pupil load per room, square footage of floor space per pupil, and as to general characteristics of spaces within the buildings.

(Continued on page 189)

* K. T. I. SYNAGOGUE, PORT CHESTER, N. Y.



Emidio De Cusati

Philip C. Johnson, Architect
Marcello Mezzullo, Contractor
Richard Kelly, Lighting Consultant
John Johansen, Stained Glass Consultant

* *Kneses Tifereth Israel*

IN THIS SYNAGOGUE, whose sanctuary seats 300, it is necessary on certain occasions to accommodate more than 1000. The social hall can seat over 700 for services or 400 at dining tables. The daily prayer room seats 150.

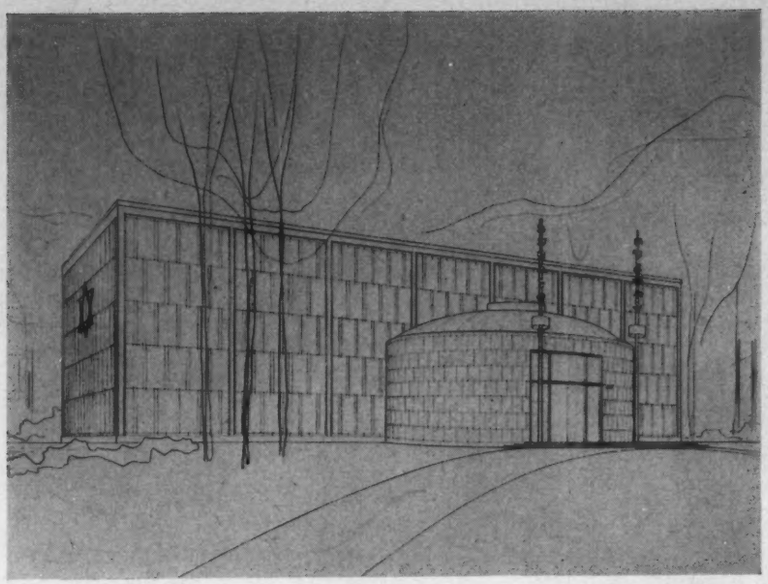
The direct handling of this practical problem of flexibility in such a way as to make a virtue of the necessity is particularly noteworthy. The employment of the curvilinear entrance room as a space of preparation is unusual and effective. The ceiling treatment in the principal room, its height, and the pattern of stained glass slits are worthy of remark. Construction is planned for completion in October of this year.

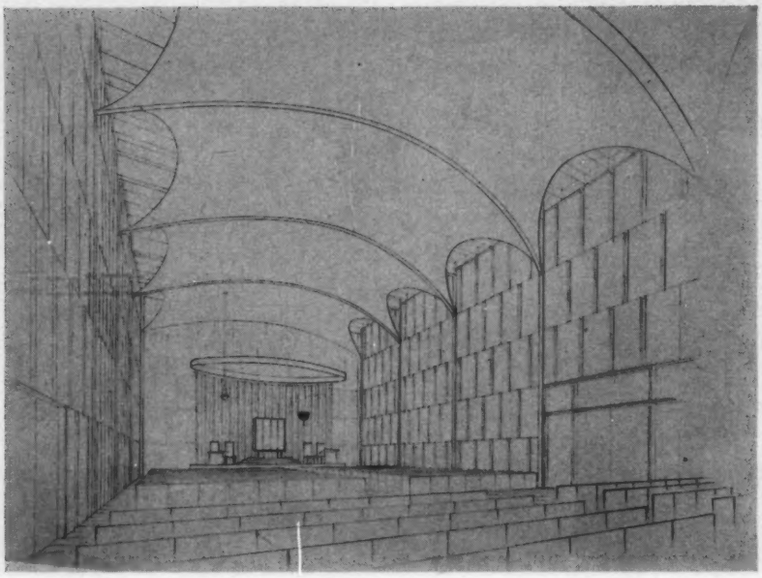


FROM THE ARCHITECT: The plan of KTI differs from most contemporary synagogues, in which the Temple is separated from the social hall by a complete wall, in that it is conceived of as one room 37 ft high with 8 ft partitions only between the part used as sanctuary and the part used as social hall. By this means the building looks its best on High Holidays when the maximum audience attends the services.

To introduce hieratic and professional effects the entrance foyer is constructed as a separate building oval in shape, thus preparing the visitor more than would the normal vestibule. In order to introduce more spiritual feeling into what has been the rather cold style of architecture which we call modern, I have, besides designing ceilings higher than the usual synagogue, introduced vaulted "sails" of plaster which are intended to give a sense of containment to the space and also to act as light baffles for daylight and artificial lighting. The entrance pavilion has an oval dome to suggest the interior as well as to free the exterior pavilion as a shape set against the rectangularity of the main hall.

The exposed steel skeleton, however, still dominates the design. Only the infill is new: door size slabs of artificial stone separated by 8 in. by 7 ft lights of stained glass.





Foundations of this building are in reinforced concrete; framing is entirely of steel in a carefully organized system permitting the exposure of the principal vertical members. Exterior walls of the synagogue consist of slabs of artificial stone 8 ft high arranged as infilling between the exposed steel columns. Interior walls are of plaster as are the curvilinear ceiling surfaces. Window openings are reduced to 7 in. slits and with their lights of stained glass spaced over the entire wall surface "should glow like a box of jewels" at night. It is expected that sculptural decoration will be added.

Cost: $400,000
Area: 15,000 sq ft

REQUIREMENTS FOR CHILDREN

Under three years

The basic consideration for this age group was: how can the church best serve the family unit, both parents and children during their infancy and earliest years. Where the church assumes responsibility for children of two years and younger, the following standards should be strictly adhered to:

Floor surfaces should be easily cleaned and warm enough for small children to sit or play on them comfortably.

There should be a separate place for each 12 infants (not walking) or for eight toddlers. Separate rooms are desirable; separate space enclosed by dividers will serve.

There should be space to permit 3 ft between cribs for infants; toddlers should have at least 30 sq ft per child.

Toddlers should be provided with child's size toilet facilities, and a child's height wash basin for each eight pupils.

The size of the tables should be restricted to 24 in. by 30 in. by 18 in. in height for the nursery children, slightly higher for the kindergarten and primary departments.

Adjoining facilities should provide for heating and storing such food as may be required for small children.

While parents should not be permitted in the small children's rooms in the interest of sanitation, these rooms should be adjacent to and accessible to a reception area. It is recommended that a small room should be provided where a leader can take a small child who has become upset or ill to await the arrival of his parents in relative quiet.

It is important that a direct entrance from outside should be provided for the section of the building assigned to preschool children.

Windows should be of clear glass, and low — 24 to 30 in. above the floor in the nursery and kindergarten departments. It is not necessary to provide room for group activities other than those areas mentioned for children under three years of age.

Three year olds

Here 35 sq ft per pupil is rated good. This permits space for moving about freely among the interest centers within the room which is so necessary for effective teaching of children of this age. Twenty to 30 sq ft per pupil is rated fair. Under 25 sq ft per pupil is rated poor.

It is recommended that not more than 15 children of this age should be in one classroom. Fifteen to 18 pupils is rated fair. More than 18 pupils, poor. Overcrowding often frightens small children who need individual attention.

Four and five year olds

The same general standards recommended for three year old children obtain for children four and five years of age. No room for children of this age should be smaller than 15 ft by 20 ft, even if this makes necessary a temporary combination of two age groups within a given room. Dimension here is critical.

Rooms should generally be rectangular in shape with proportions of 3 to 4 or 4 to 5 ft. Wherever possible, the long dimension of each room should be on the outside wall to permit large window area. One wall should provide display space. Twenty pupils of this age group in a single room is rated good; 20 to 25 pupils fair; over 25 pupils poor.

Once children have attained elementary school age the church school pupil load is increased per room, and the square footage per pupil is slightly reduced.

Twenty to 30 sq ft per pupil is rated good; 20 to 25 sq ft fair; under 20 sq ft poor.

Six to twelve year olds

Children in the grades of public school can be handled successfully in groups as large as 30.

Emphasis is placed upon the need to provide adequate storage space for every room.

There is a strong tendency away from the formal worship centers in the preschool and elementary children's classrooms. Today, all activities are carried on in a single room.

(Continued on page 193)

* CHURCH OF THE NATIVITY, HONOLULU, T. H.



Williams

Law & Wilson, Architects and Engineers
James J. Oberhausen, Electrical Engineer
Eugene Urbain, Mechanical Engineer
Harold Tanimura, Site Engineer
E. D. Phillips, Designer
Robert V. Davis, Furniture Designer
Richard R. Hadano, Contractor

** Premiated in the 1955 Awards Program of the Church Architectural Guild of America*

THIS EPISCOPAL CHURCH provides seating for 380 in the sanctuary, 20 in the choir and 90 in a children's chapel. In addition, provision has been made for a Sunday school incorporating a day school for 160 pupils.

The organization of these facilities around the deep forecourt particularly urged bringing this building to the attention of architects who will recognize in the application of the ancient "atrium" element a rich source of appeal to the senses and the minds of those people who pass through it on their way to worship.

The walled courtyards on either side of the nave shut out the distractions of a nearby highway and complete the cloistered theme.



FROM THE ARCHITECT: The first small congregation of the Church of the Nativity had been meeting in a barn belonging to a local dairy, and it was perhaps this humble setting which led them to name their completed church after the Nativity of Christ.

In a four-stage operation, completely equipped day school rooms were built first, followed by partly completed Sunday school rooms and the children's chapel. This chapel served as the church for nearly three years. The day school had grown so that two classrooms were added, and last year the church was completed.

Much thought was given to ensuring that the church should not be foreign to the land, that it should rise naturally from the soil and from the needs of its people. It is built of lava field stone gathered from neighboring hills. The pews, altar furniture, and panelling are made from the beautiful Hawaiian "koa" wood.

The distinguishing aspect of this church, aside from its adaptability to the Hawaiian scene, is its warm, family atmosphere. It was deliberately designed to draw children and parents together in their worship. The function of the courtyard in achieving this goal will be apparent. It is an integrating element of the strongest sort.





Williams

Nave framing is laminated fir trusses. Exterior walls are of volcanic field stone gathered nearby. Interior walls are paneled in koa wood. The roof consists of 2 in. redwood sheathing covered with cedar shakes. Louvers are in redwood and glass jalousies are employed in the openings. Mullions, exterior cross, pulpit, lectern and altar rail are in cast stone. The lanaii uses a coral aggregate simulating travertine. Pews are in koa wood. Altar and cross are in green marble.

Cost: $196,533
Area: 15,806 sq ft

REQUIREMENTS FOR YOUNG PEOPLE

Quite understandably the churches are spending a large share of their educational, recreational and social dollars on the age group 12 to 18; the junior and senior high school range. Appeal to these young people must be most carefully made in this stage of their development when steadying directions are difficult to achieve and maintain.

Provisions for youth activities in terms of space, equipment and particularly the character of the space are most critical matters. Here careful planning and good designs can often make the difference between maintaining the participation and enthusiasm of youth or losing them to completely outside interests.

Loads and spaces

In the junior high and high school divisions, the recommended pupil load is 20 for junior high pupils and 25 for the senior high and older youth. Fifteen to 18 sq ft per pupil is considered good; 12 to 15 sq ft fair; and 10 to 12 sq ft poor. Here again, the provision of adequate floor space is deemed important to permit a greater variety of teaching procedures and a sense of freedom and livable conditions within a given room.

In some instances, pupils of this age will be provided with one room large enough to assemble the whole age group for such activities as they need to carry on as a unit. If this procedure is followed, there should be classrooms adjacent of the sizes mentioned where the classroom and more intimate study work can be carried on in smaller groups.

Extracurricular activities

In many instances, these larger assembly rooms serve many purposes, and are often equipped with a small kitchenette which provides opportunity for sociable affairs and refreshments.

It is recommended that churches plan these rooms with a view not only to meeting the church school requirements, but also the extracurricular activities of young people. In larger churches, snack bars and a rendezvous room where youth may gather for sociability under supervision, are much in evidence. Religious leaders find that young people will often discuss serious religious problems in these informal occasions, with the record player or television or radio going full blast. In fact, the informal gathering of people together within a church building is more and more becoming an important approach to a natural discussion of religious and personal problems.

Equipment and furnishings

It is recommended that no matter what the numerical size of a class of young people is, the room should never be less than 12 ft by 15 ft in square footage. Here again, the whole concept of multiple use and flexibility of use is emphasized.

In youth departments, sturdy folding chairs which provide comfortable seating make possible a flexible arrangement and multiple use of space and equipment.

Chalk boards, maps of the roller type, plenty of cabinets for storing material, and carefully selected pictures with an appeal for youth are standard equipment for their rooms.

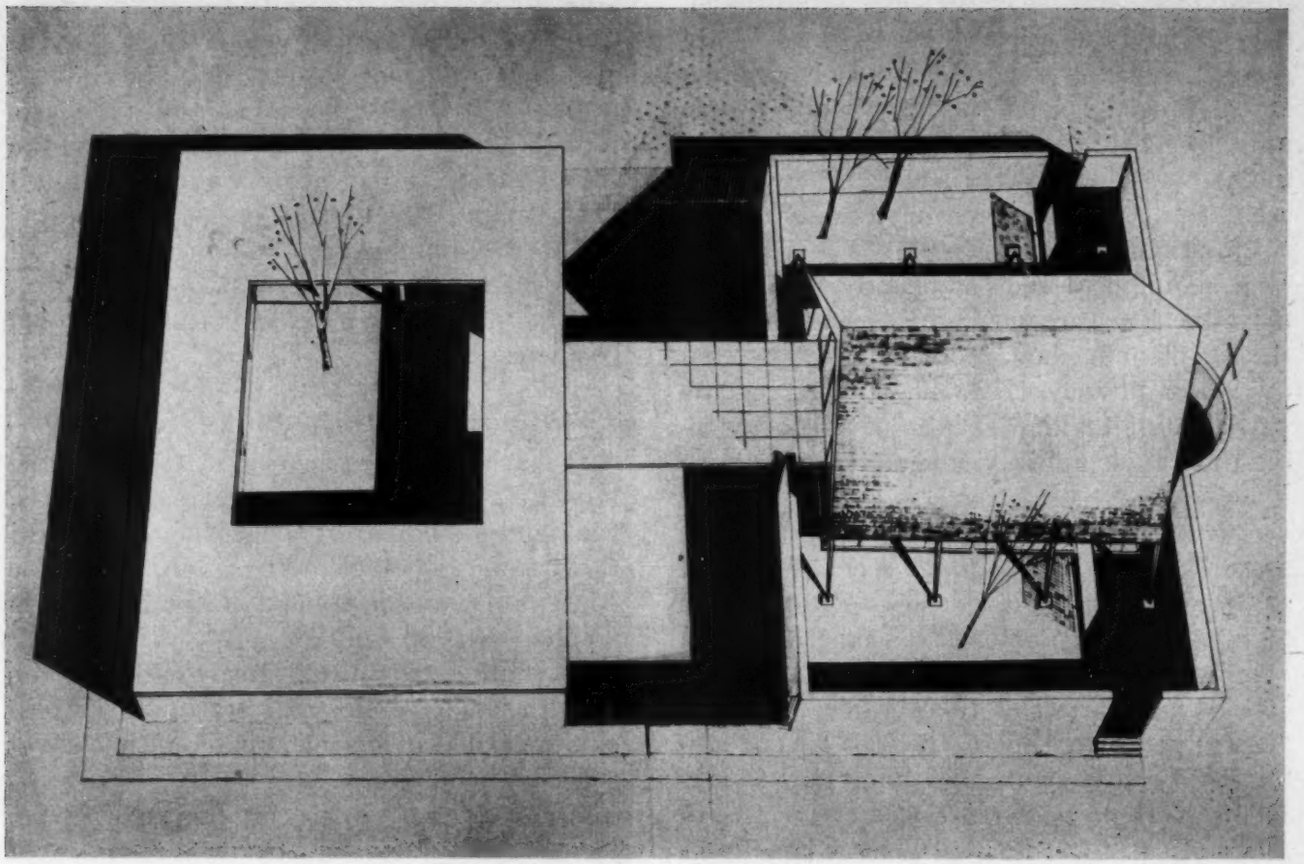
Reading and recreation

Where the church budget will permit, a youth lounge with a fireplace is highly recommended for after church get-togethers and for discussion groups so much enjoyed by youth. Increasingly, a good church library with youth reference library is being installed in the modern church. Craft and game rooms in basement areas are important. The many clubs, Scout units, and other organizations of the church find increasing use for this kind of creative group activity.

While the trend is definitely away from gymnasiums and spaces for heavy athletic events, greater emphasis is being placed upon providing plenty of rooms of various sizes for the informal social gathering of small groups.

(Continued on page 197)

INTERFAITH CHAPEL FOR TEXAS A & M COLLEGE



Bolton and Barnstone, Architects

THIS DESIGN for an inter-faith chapel was submitted in a competition open to former Texas A & M students. The program called for a chapel seating 200, and adjunct facilities consisting of rooms for administration, reception, library and conference, plus a garden accessible from the principal rooms.

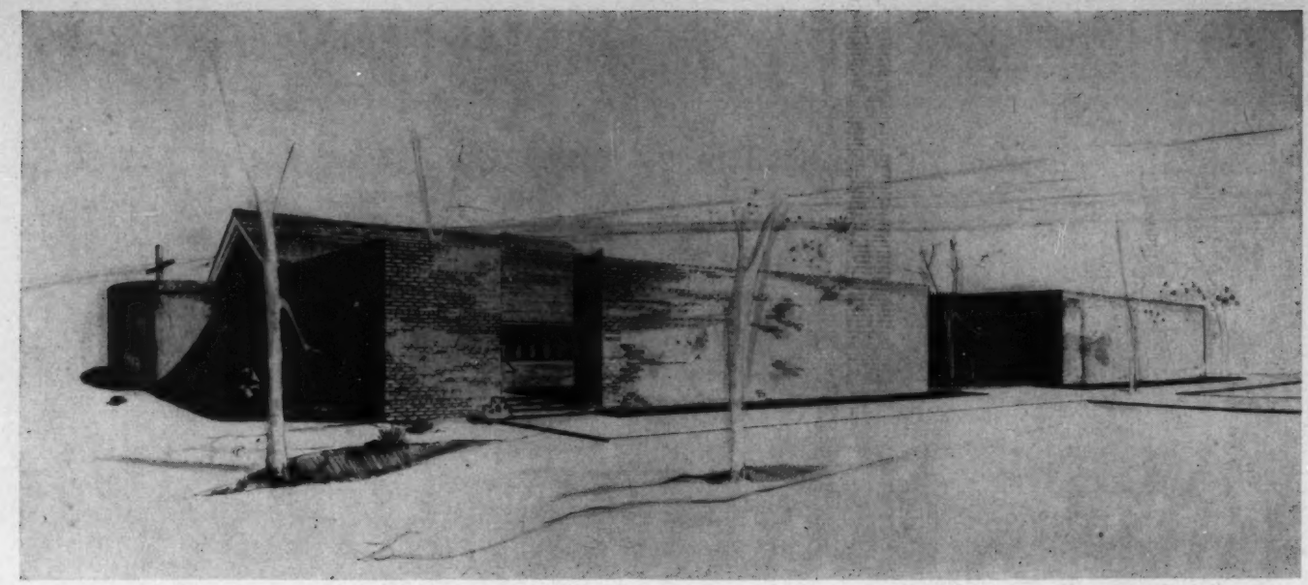
The simple enclosing wall effectively expresses the meditative and worship functions of this building which was designed for a site on the busy Texas campus. The central outdoor meditation area is partially covered with a Plexiglas filled steel framework and paved with alternating rectangles of brick and marble chips and stones.

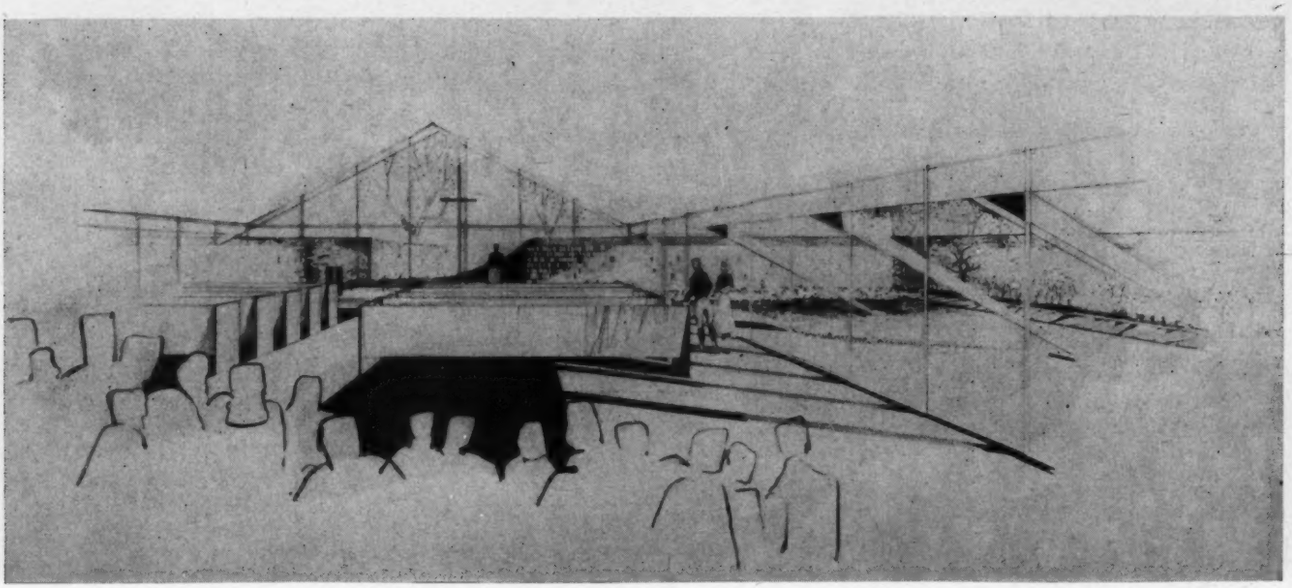


FROM THE ARCHITECT: In the near vicinity of the campus are churches of many denominations and faiths which provide religious services, educational facilities and fellowship to meet the choice of Christian and Jewish students. It is not intended that this Chapel shall provide the services furnished by those churches or supplant their importance in the community; but rather this shall be a place where men of all faiths shall find wholesome and inspirational environment for a moment of meditation and communion with God. Its purpose is to provide space for quiet meditation and discussion, a garden for beauty and enjoyment, an intimate and memorable sanctuary for personal religious services, rites and ceremonies.

The gardens to either side of the nave are enclosed and made private by the brick walls and create a feeling of security and beauty. The choir loft is above on a projected balcony and may be used as auxiliary seating.

The court between the nave and the administrative area serves as circulation — as a place for occasional outside worship and as emphasis to the separate character of the Chapel and the administrative parts. Central to the entire design is the use of the garden courts. They provide the means of both extending and unifying the space visually.





Chapel roof framing is steel bents and purlins with steel joists in the administrative portion. Exterior walls of the chapel are glass on all four sides; cavity brick elsewhere in the building. Interior walls include sandblasted glass where facing the court. Roof of the chapel proposes wood decking and shingles; of the flat areas — 5 ply built-up roof. Ceiling is sound-absorbing plaster. Contemplated heating is through natural gas boiler, radiant system with copper tubing. Cooling is to be through 50 ton electrically operated plant with circulating lines to chilled water converters.

Cost (estimated): $200,000
Area: (Enclosed) 6,834 sq ft
(Covered) 5,090 sq ft
(Nave) 83,952 cu ft
(Adm. Fac.) 45,920 cu ft

REQUIREMENTS FOR ADULTS

Loads and spaces

The increasing number of elder citizens being added to our population each year, some 400,000 of them, presents a new challenge to the church to provide space, equipment, and opportunity for these older people to enjoy each other's company and to engage in creative activities suitable to their ages.

While youth can readily make use of the upper floors and buildings where it is necessary because of limited land use to erect such structures, adults should preferably be on floors which are close to grade and easily approached.

There is a noticeable tendency away from the very large adult classes running into memberships and attendance of 100 or more. Attempts are being made to organize adult work on the basis of interest groups and to keep the size of the groups to such numbers as will permit a more intimate friendship and a more general participation of the class in discussion.

Adult classrooms should be computed on the basis of 10 sq ft of floor space per pupil. This means that a class of 40 members will need approximately 400 sq ft of floor space or a room approximately 16 ft by 24 ft. For the reasons mentioned above, it is hoped that adult classes will not exceed from 40 to 50 members at the most.

Seating arrangements

While adults usually are accustomed to sitting in formally arranged seatings, the tendency today is to make the adult classroom far less formal. Additional floor space and the careful selection of furniture permit a more homelike atmosphere in the adult classroom and the arrangement of seating in such a way as to give a sense of group participation rather than the lecture method of teaching.

A small kitchenette adjacent to adult classrooms makes it possible to use these rooms for small social occasions and for club or group meetings. In the design of this, flexibility of arrangement for maximum use is difficult but completely necessary for efficient use of the space.

Recreational requirements

As with youth, craft activities are becoming increasingly popular among adults, and frequently create great interest in games or other forms of physical recreation. Men and women enjoy learning new skills or improving upon old ones, and in creating things which are both useful and beautiful. These classrooms can be equipped as elaborately as the interests of the adults demand, and as can be carried by the funds available. In some instances, ceramic kilns, power saws, knitting paraphernalia, sewing machines, leather tooling equipment, carpenter tools, and other related equipment are made available.

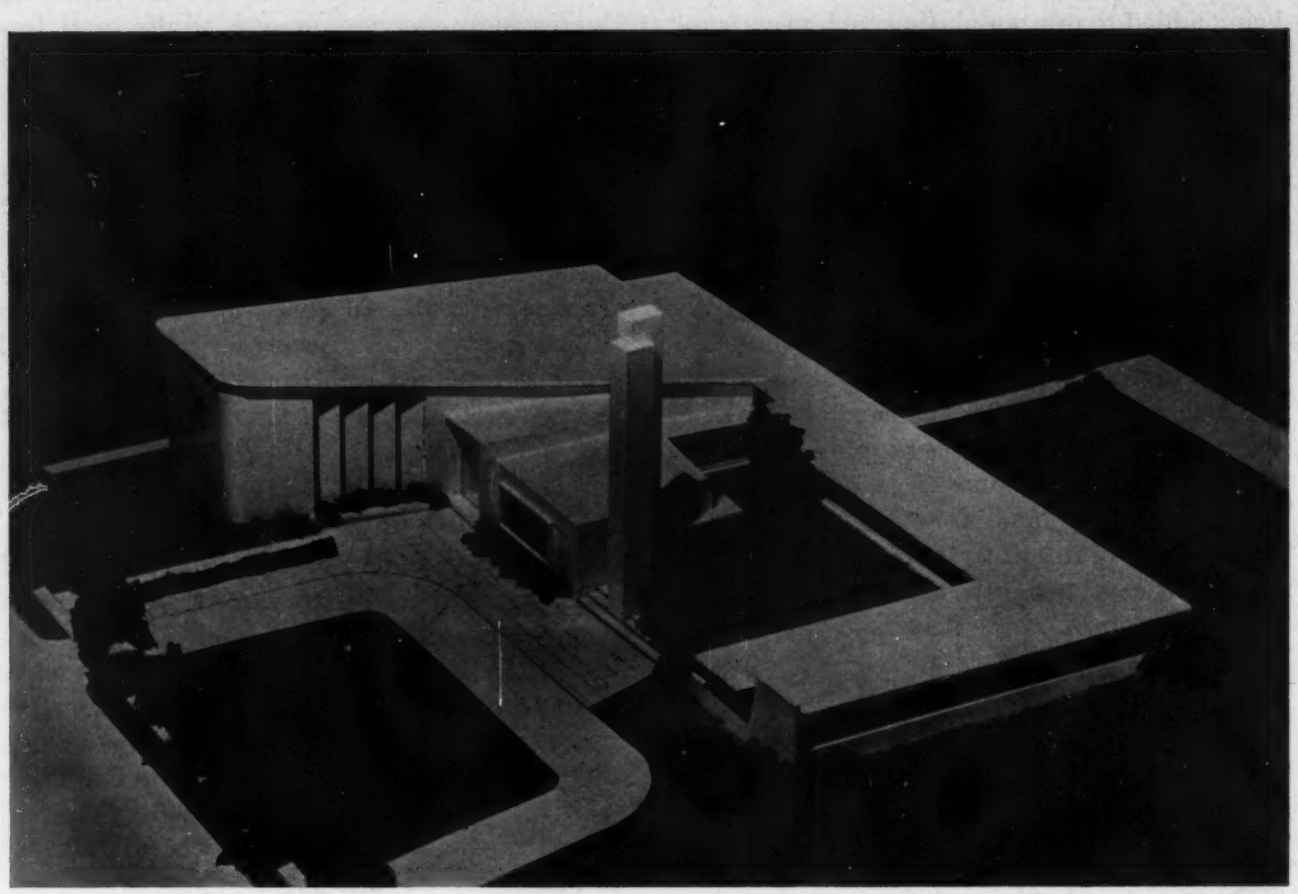
Dining provisions

At least one large room should be arranged for the large banquets or dinners which should characterize the program of the modern church and for special dramatic or audio-visual programs as may from time to time be presented by the church. Here again, emphasis needs to be placed upon the fact that the new methods of lighting, heating and ventilating, and the new fabrics with which even an old building can be refurbished, make it unnecessary for any church to have a gloomy, unhealthy building, either from the standpoint of the room areas or the toilet facilities or the corridors and entrances.

Kitchen requirements

From 10 to 12 sq ft per person is the requirement for a large dining or banquet hall. Kitchen facilities, which should be immediately adjacent, will require extra space. In the modern church, it is important that the kitchen be well planned by a competent architect or kitchen engineer, and that the many pieces of equipment which ease the labor of volunteer workers, should be installed. Today this equipment is available in price ranges suitable to the building budget of every church; the determination of equipment needs for kitchen, class and craft rooms should be among the very first acts of the architect as he begins the design of these facilities.

BETH ISRAEL SYNAGOGUE AND SCHOOL, OMAHA



L. D. Jones

Kivett and Myers, Architects
Angus McCallum, Associate
Steele, Sandham and Steele, Supervising Architects
Pfuhl and Shideler, Structural Engineers
W. L. Cassell, Mechanical Engineer
Cooper Construction Co., General Contractor
Miller Electric Co., Electrical Contractor
Natkin Engineering Co., Plumbing and Heating Contractor

PARTIALLY COMPLETED in 1953, and awarded the medal of the Kansas City Chapter of the A.I.A., this building seats over 650 in the sanctuary and an additional 800 in the congregational assembly hall which seats 400 at dining tables.

Here again is seen the use of the courtyard as an integral element in the design. Principal entrances to it may be made from either the driveway approach or from the main corridor which separates the assembly hall from the religious education unit.

The carefully organized plan provides for the great variety of use demanded by all religious buildings today.

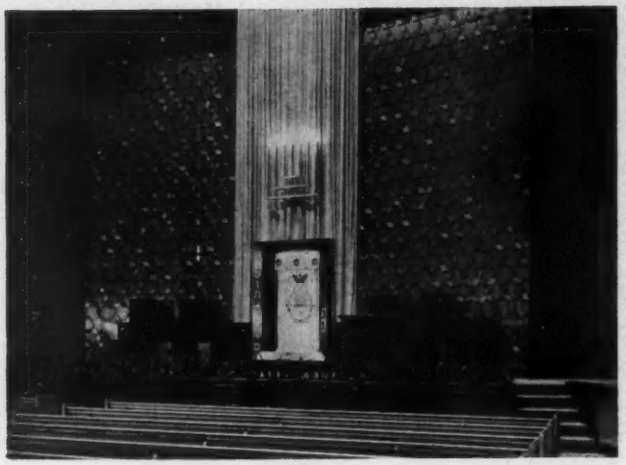


FROM THE ARCHITECT: Herewith some interpretation of the various symbols used in the Sanctuary: at the front of the auditorium, the two high walls on either side of the Ark covered with Stars of David, worked out in a three dimension pattern on a walnut background, are symbolic of the two tablets of the Ten Commandments, which are in turn joined, and partially covered by, a central curtain indicative of the curtain covering the Holy of Holies in the Temple. The curtain is golden, symbolic of the magnificent curtain that covered the Ark in the days of the Temple. Above the Ark is the high Menorah with seven branches, just as there was one in the ancient days; it is symbolic of the creation of light and to the left is the Eternal Light, eternally reminding of the light that never failed in the Temple. One approaches the Ark by going up five stairs, these are symbolic of the five books of Moses; and the twelve windows and jutting walls are, of course, representative of the twelve tribes of Israel.

In Contemporary Jewish Houses of Worship a great effort is being made to make them uniquely American in form and spirit, and to establish a conscious and creative synagogue for our country. Architects will recognize that the design problems in synagogues today are in many ways unique.









Foundations here are reinforced concrete. Framing is steel. Exterior walls are light buff face brick and Indiana limestone with shot sawn finish. Interior walls are plaster. Partitions are masonry block. Roof is steel deck. The ceiling combines plaster and mineral type acoustical tiles; kitchen — metal pans. Floors are asphalt tile and terrazzo. Windows are steel frame. Exterior door is aluminum. Folding door partition between sanctuary and social hall is one of the largest of such installations.

Cost: $418,000 (exclusive of religious school)
Area: 20,957 sq ft

A BIBLIOGRAPHY OF CHURCH ARCHITECTURE

THE FOLLOWING BOOKS have been selected from the large literature of this subject in the interest of providing the active architect a simple, working list with the maximum pertinence for today's problems. Hence, most of these books have been published during the past ten years.

For their help in compiling this bibliography, ARCHITECTURAL RECORD is grateful to:

Marvin P. Halverson, Executive Director, Department of Worship and the Arts, National Council of the Churches of Christ in the U. S. A.

Prof. Herbert W. Johe, School of Architecture, University of Michigan

Maurice Lavanoux, Secretary, Liturgical Arts Society, Inc.

Rabbi Eugene Lipman, Director of Synagogue Activities, Union of American Hebrew Congregations

Protestant

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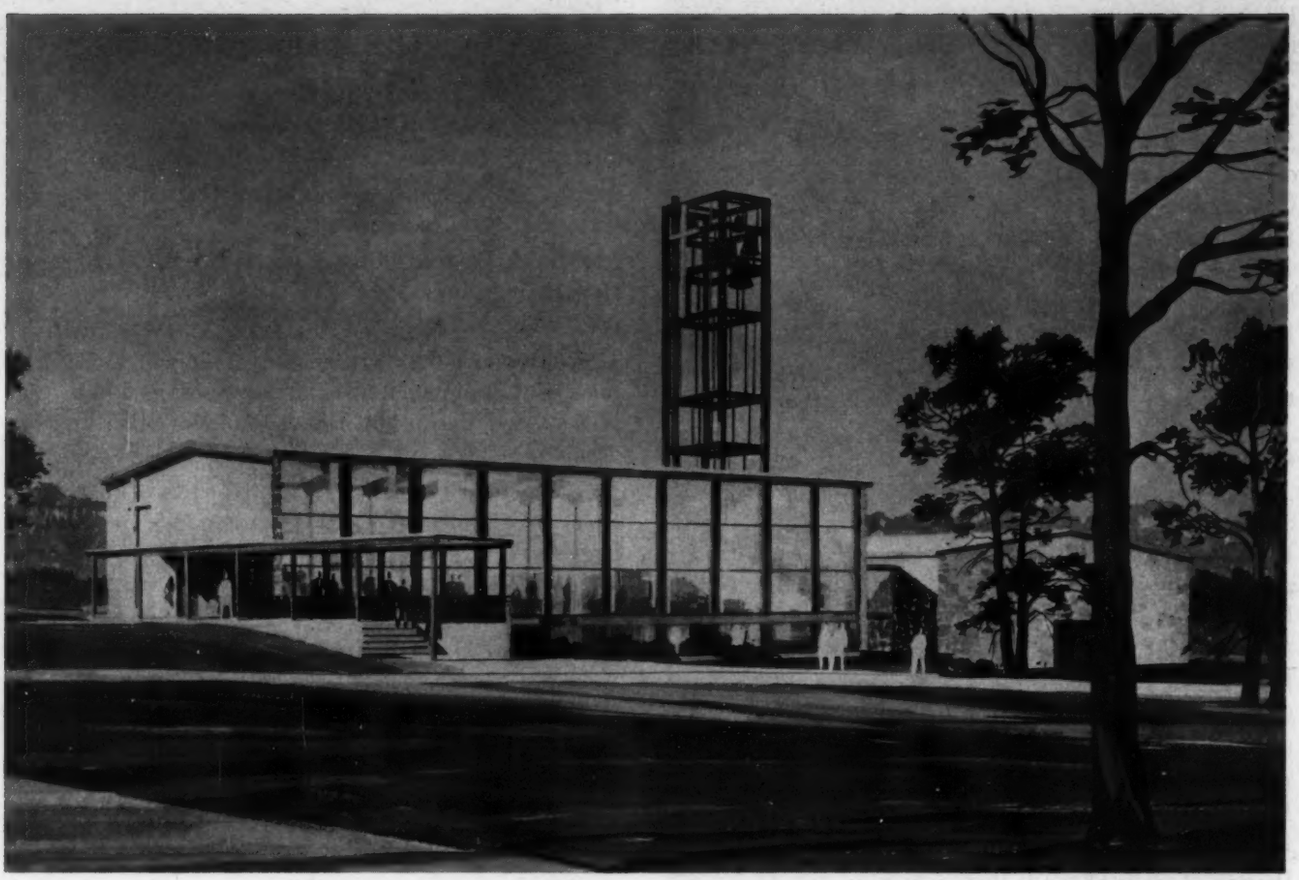
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General

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ST. PETER'S LUTHERAN CHURCH, NORWALK, CT.



Pedersen and Tilney, Architects

THE PROGRAM for this building made these five major demands: a minimum of 300 seats in the nave and a maximum educational and parish activity area for the use of somewhat over 300 children from the neighborhood; a church which would conform properly to the established liturgical pattern of this Lutheran denomination; careful use of the irregularly contoured three-acre site in its pleasant suburban environment; a modern building of simple materials but without experimental forms; and a building of minimum cost. The chairman of the building committee is a merchant builder. The success of the architects in meeting these demands is evident here.

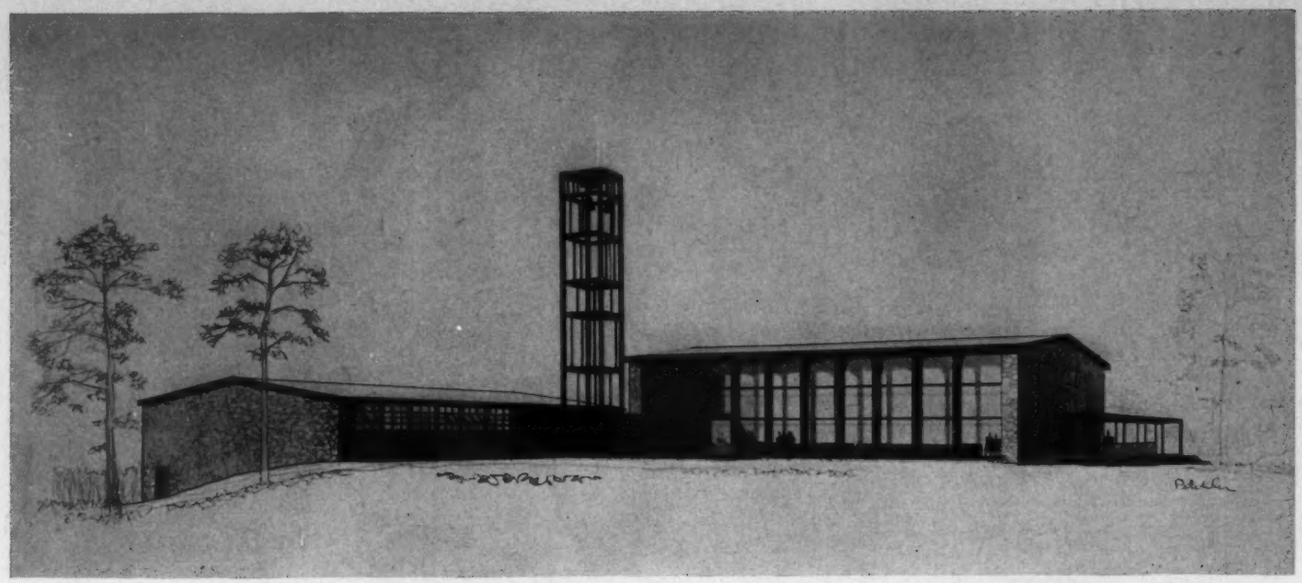


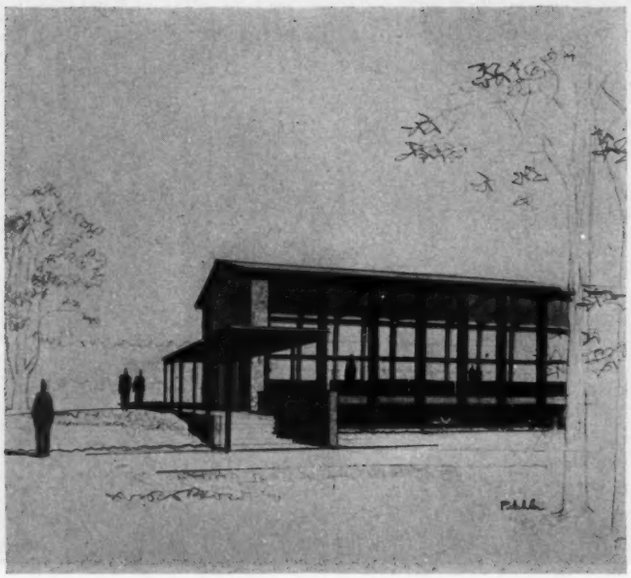
FROM THE ARCHITECT: The new church for St. Peter's Lutheran Congregation is strongly in the contemporary style characterized by the simple straightforward use of everyday materials — brick, redwood, glass and concrete — organized so they create a structure having the dignity and character required by a Lutheran church.

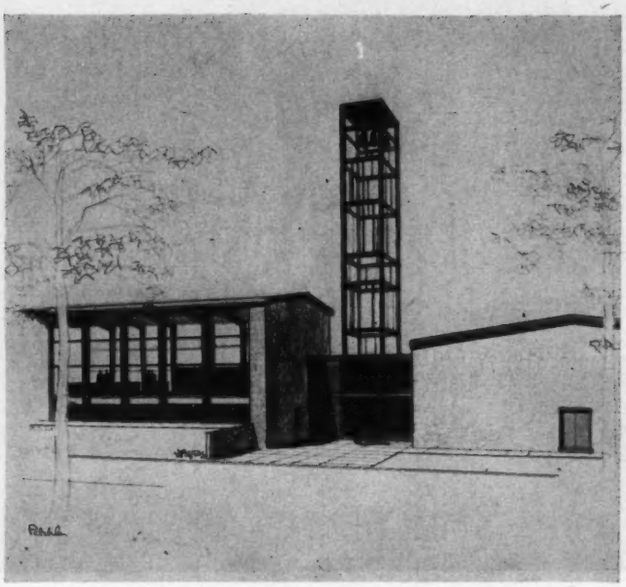
Use has been made of the natural contours of the site so three divisions of the building, the church proper, the fellowship building with gymnasium and the assembly hall, all receive the maximum of natural light and ventilation and so these elements of the church create a pleasing and harmonious composition. A simple open bell tower dominates the center of the building group.

The new church will be equipped with special lighting complementing the dramatic glass walls but will otherwise be plainly furnished. It will be fully air conditioned and will be provided with facilities such as kitchens and locker rooms for social and athletic gatherings.

(Editor's note: It is interesting to note that in this example — one of two in this study which do not employ the courtyard as an element — the site is pleasantly wooded, interestingly contoured and relatively quiet; in light of this there is no need for the court device.)







Framing in this building employs laminated bents. Exterior walls of gymnasium and nave ends, originally intended to be in stone are presently proposed to be carried out in brick. Interior walls of the nave will be redwood siding. Roof will be 5-ply, built up, topped with white gravel. Floors in gymnasium will be hardwood; in the nave asphalt tile. Open tower will be in wood frame with poured concrete base. Narthex porch will be paved in flagstone. Narthex screen will be of plywood.

Cost (estimated): $250,000
Area: 21,500 sq ft

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Liturgical Arts. Published quarterly by Liturgical Arts Society, Inc., 7 East 42nd Street, New York 17, N. Y. (Roman Catholic)

Protestant Church Administration & Equipment. Published quarterly by the Christian Herald Association, Inc., 27 East 39th Street, New York 16, N. Y.

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Architectural Forum
Progressive Architecture

ARCHITECTURAL RECORD

Religious Buildings — Building Types Study Number 223, June 1955

Religious Buildings — Building Types Study Number 217, December 1954

Religious Buildings — Building Types Study Number 205, December 1953

Religious Buildings — Building Types Study Number 177, August 1951

Religious Buildings — Building Types Study Number 156, December 1949

Religious Buildings — Building Types Study Number 138, June 1948

* FIRST BAPTIST CHURCH, EVERETT, WASH.



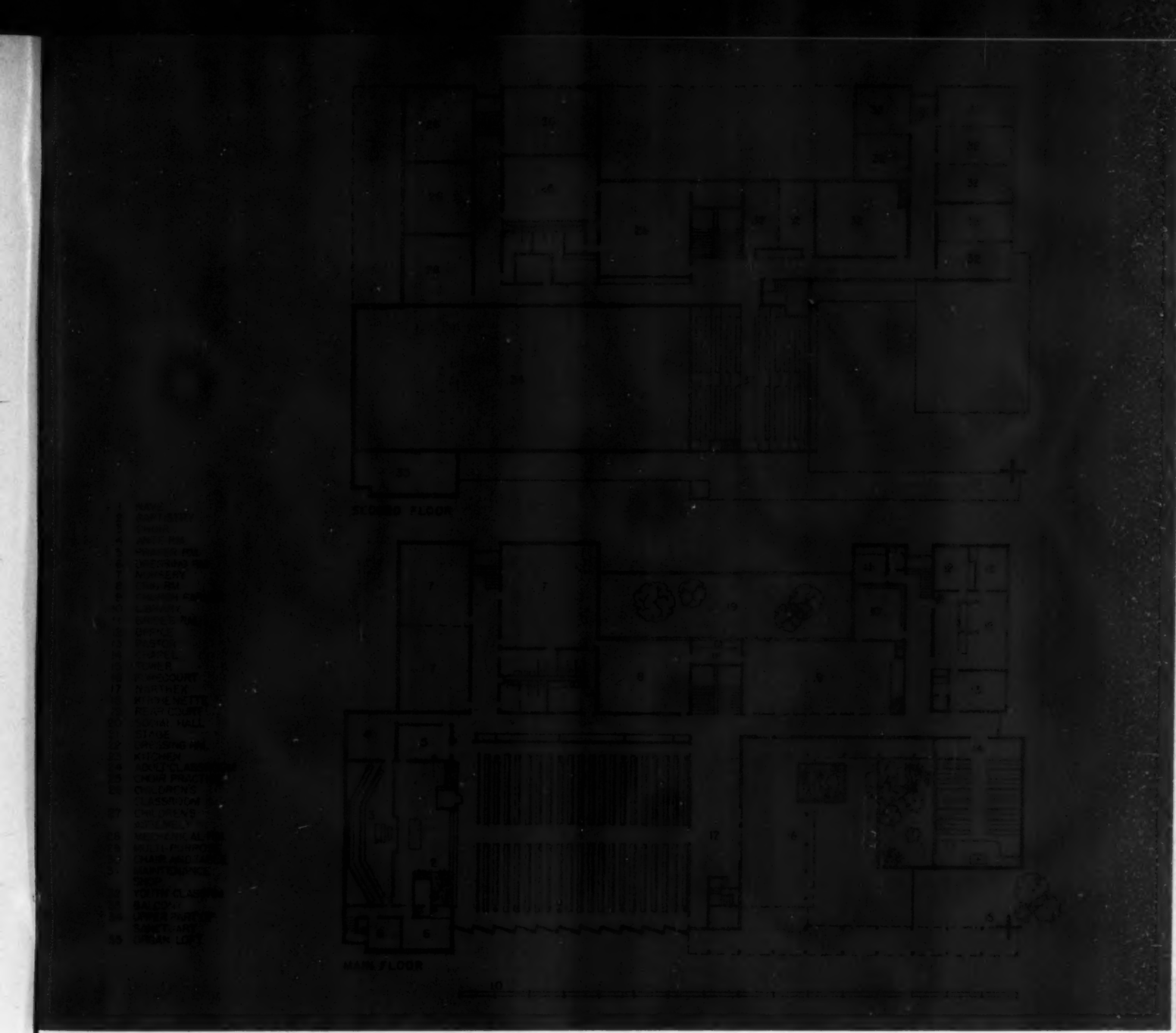
Durham, Anderson and Freed, Architects

** Premiated in the 1955 Awards Program of the Church Architectural Guild of America*

WITH AN EXTREMELY SMALL downtown lot, and a very low per capita budget, the architects of this building faced an unusually difficult problem of planning.

On a lot 120 ft by 194 ft, they were asked to provide sanctuary seats for 800; religious education facilities, including adults, for 800 to 950; dining facilities for 400; and a chapel for 100 or more persons.

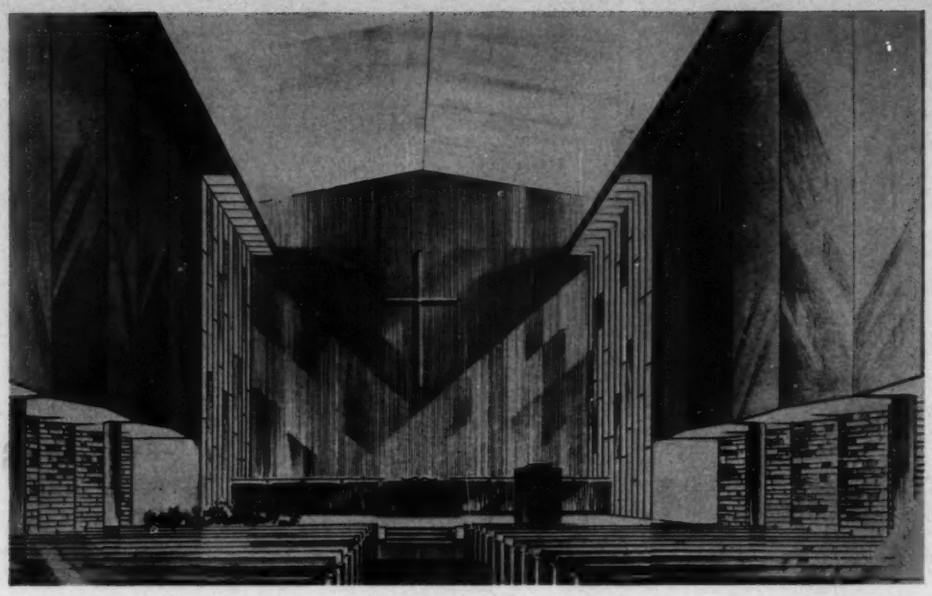
The use of an entrance forecourt and rear and side courts provides an increased amount of light and vista as well as the means of unifying the many complex elements demanded in a large city church with a wide-ranging program of varied activities.

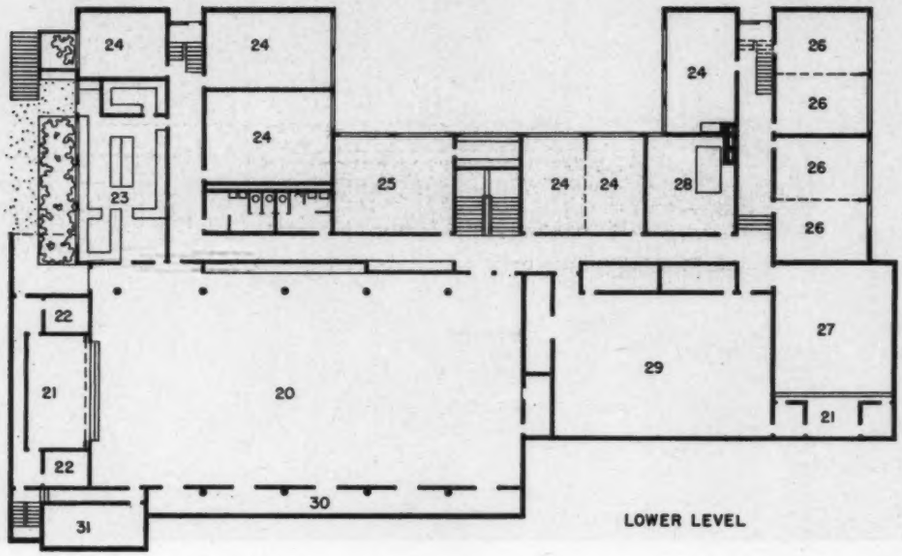


FROM THE ARCHITECT: The entrance to the church, chapel, and religious education spaces through the landscaped court creates, on a site lacking the appeal of a suburban tree-covered area, a composition pleasing in its relationship and interesting in its possibilities for texture, color and pattern.

Circulation on the main floor has been dramatized to connect the use of the chapel, church parlor and nave with the adjacent areas accommodating the administration offices and the space for the youngest children, in order that mothers will not have to leave this floor. The religious education space is organized into typical departmental areas. Large classrooms are grouped around assembly areas for group worship with the purpose of alternating the use of worship and study space by separate groups. This church is unique in its development of adult classes which form an unusual percentage of the Sunday School attendance. Classroom areas have been kept as large and flexible as possible, well-lighted, and integrated with vertical circulation.

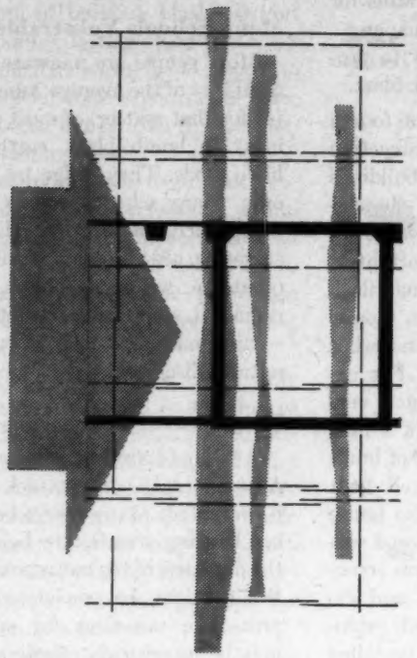
A multi-purpose area on the basement level is a compromise to find space for active play to meet those who wish to emphasize gymnasium activities. The social hall will be designed for multiple use, but it is not intended for gymnasium activity.





Construction will be carried out in reinforced concrete using prestressed beams and slabs. Exterior walls will be faced with native stone and will result in a combination of exposed concrete, stone and glass. Interior walls will be plastered with large areas of sound-absorbing plaster. Partitions will be 2 in. plaster and the ceiling will be suspended. Floors will be finished in asphalt tile. Aluminum sash will be used for windows. Plastic sky domes are proposed in the garden court to illuminate multi-purpose room below. The heating system will be oil-fired, hot water with zone control.

Cost (estimated): $563,000 (including furnishings, fees, sales tax)
Area: 42,603 sq ft



SCHOOLS CAN BE MADE BLAST RESISTANT

By Boyd G. Anderson of Ammann & Whitney, Consulting Engineers, and Ellery Husted of Gugler, Kimball & Husted, Architects

CONTRARY to popular opinion, design for protection against atomic warfare is *not* a futile or hopeless undertaking. From the Japanese bombings in 1945 and from subsequent studies by civil defense officials, engineers and architects has come knowledge of types of construction and materials that can be used to provide life-saving protection against atomic blasts. The degree of protection will depend, of course, upon the distance of a structure from the blast and the size of the bomb. Of great importance is the fact that protection may be provided at distances which "scare" stories may have led people to believe will be areas of "complete devastation."

Among the key structures for which protection against attack is desired are the nation's school buildings. First, of course, protection is desired and needed for the children attending the school. Secondly, school buildings are considered of prime importance for emergency use *after* any possible future attack. The National Security Resources Board suggested during preliminary civil defense planning that all schools be commandeered for such emergency services as housing, first aid stations, hospitals and emergency feeding following attack.

Experience from Japan

The effectiveness of certain types of construction offering maximum lateral stability as compared to conventional wall-bearing structures is dramatically illustrated by the destruction at Hiroshima and Nagasaki. After the attack, reinforced concrete buildings in the cities stood like islands in a sea of rubble.

At Hiroshima University of Literature and Science, located 4200 ft from the blast, minor damage was done to the frame of the laboratory and classroom buildings, although fire severely damaged the contents. This building, of appreciably stronger construction than the average U. S. building, had a reinforced concrete frame with reinforced concrete roof, partitions, walls and floors.

Incredible as it may seem, the Honkawa Grammar School in Hiroshima remained standing although it was located only 1200 ft — about two city blocks! — from ground zero. The T bridge in the upper photo on the following page was the aiming point for the atomic bombing on August 6, 1945. The Honkawa Grammar School is at far right-center. Three stories high with basement, it had a reinforced concrete roof and reinforced concrete floors and interior partitions. Though contents were completely destroyed and 15 per cent of the roof slabs were cracked, structural damage was limited to about one per cent of total floor area and superficial damage to six per cent. All finish, floors and trim were burned out, and sash and doors were blown out. However, as can be seen, the building survived. With a thorough cleandown and coverings for windows, it could serve as a shelter or provide hospital bed space.

Schools in Japan of lightweight con-

Remains of Nagasaki Medical College. Concrete buildings remaining suffered various degrees of damage from blast and fire, but others of wood were completely destroyed



struction roughly similar to United States schools collapsed at distances to 8500 ft from ground zero when subjected to a nominal bomb. The mortality rate was extremely high. The best of the Japanese schools, designed to resist earthquakes, survived at much closer distances. But of those that survived as structures, most failed as protective shelters. These schools were relatively strong structures compared with schools in this country.

Blast-Resistant Features

It is possible to provide blast resistance almost to ground zero — a point directly under the point of burst — of an A-bomb detonated in the air about a half mile up. It is possible but not economically feasible, save for a few very important buildings. However, it is quite practicable and within reasonable costs to provide a substantial degree of protection in buildings beyond a certain radius (see Fig. 1).

Three general improvements in construction can give new structures the lateral stability and other qualities necessary for effectiveness against atomic blast. These are:

(1) Connections capable of developing all the strength available in columns and beams;
(2) Substitution of structural walls for curtain walls and light partitions; and
(3) Use of more massive walls to protect against radiation as well as blast.

To these should be added a fourth consideration: design and construction for fire resistance. Burned-out buildings in Hiroshima and Nagasaki demonstrated that improving the fire-resistance of a structure is almost as important as increasing its strength. Thermal flash concurrent with explosion of an atomic bomb can cause combustible materials to literally burst into flames. For example, black cotton "black-out" curtains were ignited two-thirds of a mile from air zero — the exact point of burst of the bomb. Directly radiated heat from a nuclear weapon can also ignite and quickly char unprotected wood surfaces near the blast. Even where structures survive the initial blast and extreme temperatures of the bomb explosion, they will unquestionably be called upon to resist local fires of many natures. In many instances in Hiroshima and Nagasaki, observers found it difficult to determine whether collapse was due to blast or to weakening of the structure by prolonged exposure to fire.

Many Schools Vulnerable

Most people are unaware of the vulnerability of the average American school (or for that matter, of most other buildings) to bomb blast, earthquake and high winds. They judge by appearance only. Many schools, new as well as old, particularly those of wall-bearing construction, are vulnerable to all the effects of atomic weapons — blast, fire, flash, radiation, splintering glass, flying debris — and many are equally vulnerable to natural disasters.

Two General Approaches

A view of complete helplessness against A-bomb or H-bomb attack should not be accepted. Many new schools, following housing trends, are being built on the outskirts of big metropolitan centers. What might be considered minimum protective measures for such schools may be surprisingly effective, since they will generally be at sufficient distance from the main target areas to make it unlikely that they will be exposed to the most intense blast pressures. The im-

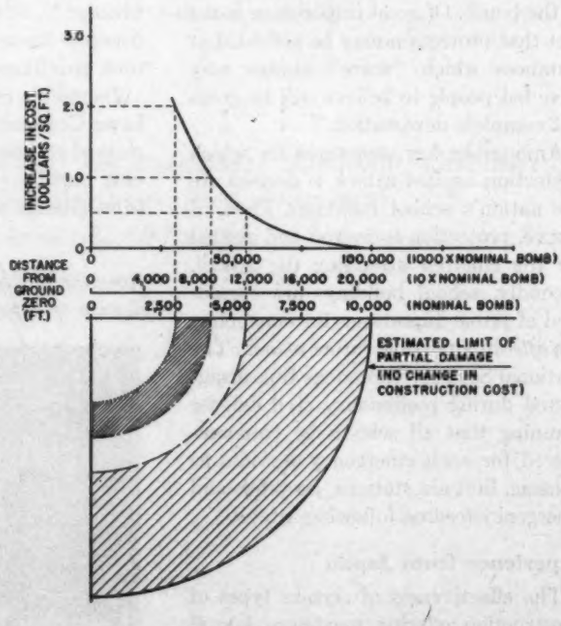
Top: aiming point for the A-bomb drop at Hiroshima was the T-bridge. Honkawa Grammar School (right-center) only 1200 ft away still stands. Bottom: concrete structure at Hiroshima University, 4200 ft from ground zero, suffered only minor damage





Graph shows increase in cost for blast protection in multi-story structures as they are closer to assumed ground zero. Rings show that more buildings in outer area can be protected for a given increase. Costs would be even less for schools

FIG. 1



portant thing is that this knowledge be put to work now, while there is still time.

There are two general approaches to the problem of building blast-resistant school buildings. Both assume that there will be sufficient warning of attack to get students out of classrooms (which are areas of special danger due to windows) and into shelter areas.

The first approach is to provide protection only in certain sections within the buildings, such as the corridors and basement. These sections would be so constructed as to provide protection despite collapse and damage to other portions of the structure.

The second approach is to provide special shelter areas, and in addition to improve the entire structure in an attempt to limit structural damage to any part of the school to reasonable amounts. This approach, by improving the whole building, would seek to keep the structure usable after attack, first for emergency purposes and later perhaps for reconversion to school use.

Since no two schools are alike nor necessarily need to be arranged alike to obtain the desired protection features, only simple elements such as classroom units, corridors and special rooms are used in the ensuing discussion on blast-resistant school buildings.

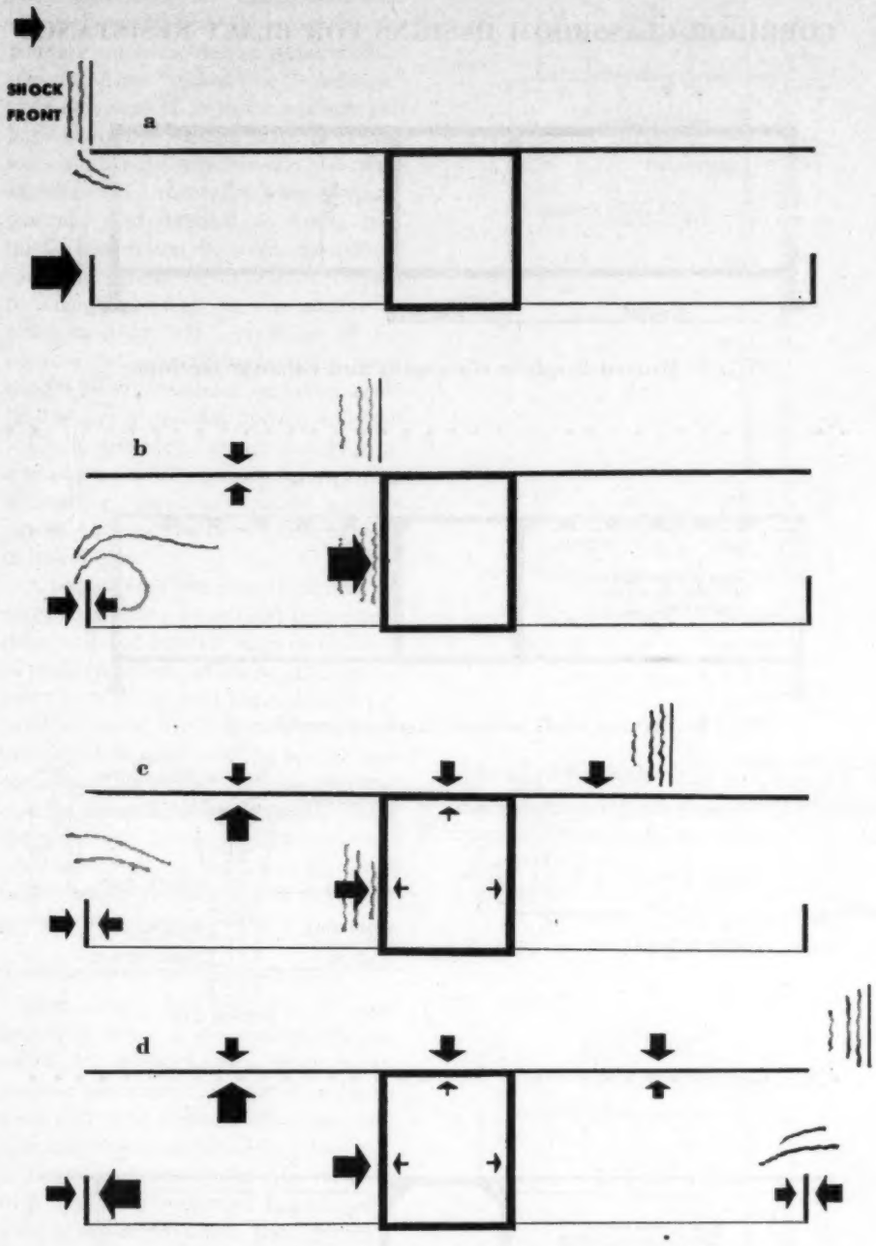
Special Shelter Areas

A shelter area in the basement has a number of advantages in adaptability and radiation protection. It should be covered with a reinforced concrete floor of sufficient thickness to resist the blast pressure, and weight of falling debris and to provide adequate resistance against radiation. Typical framing and reinforcement for basement shelters are shown in Fig. 10. The space should preferably be free of gas, steam and water pipes, free-standing lockers, suspended fixtures and combustible materials.

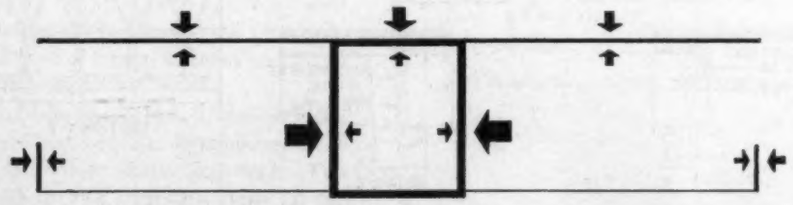
At least two exits should be provided. A floor area of 6 sq ft should be allowed per person. Ventilation need not be elaborate. Area windows with sash that can be quickly opened or removed may suffice both for ventilation and for alternate escape exits. Earth outside the basement walls will effectively shield occupants from direct radiation.

Where the shelter is a corridor, the roof and walls must be designed to resist blast pressure and withstand wracking and overturning. Corridor walls may be reinforced concrete or reinforced masonry. Roof and floor slabs should be reinforced concrete.

FIG. 2



The four sketches above show relative blast pressures (as indicated by widths of arrows) on a structure having classrooms on both sides of a corridor, as the shock front passes over it. [a] pressure has built up on exterior wall and has blown out windows. [b] shock wave has hit the corridor causing high pressure there; it is equalizing on the exterior wall. [c] shock wave has reflected from the corridor wall, and pressure is now larger under the roof than over it. [d] pressure is entering other classroom. Sketch below shows design loads which have to be calculated for pressures both inward and outward. They are determined by duration as well as magnitude of pressure. Design loads are much less than instantaneous pressures (arrows magnified four times over top sketches)



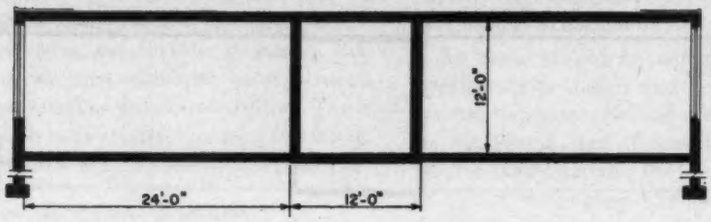


FIG. 3 Poured-in-place classroom and corridor sections

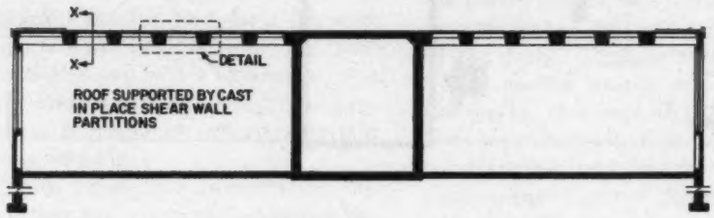
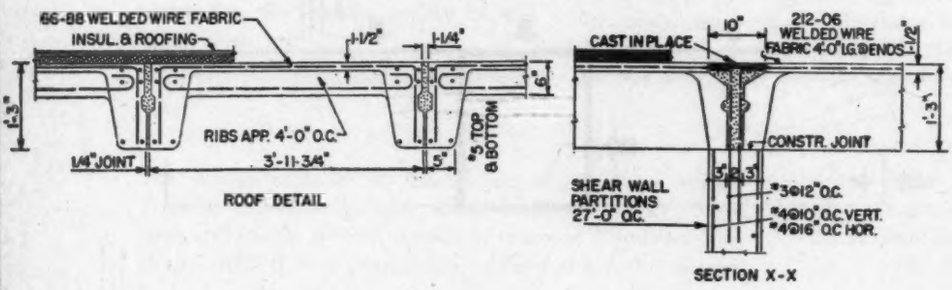


FIG. 4 Precast roof, poured-in-place corridor



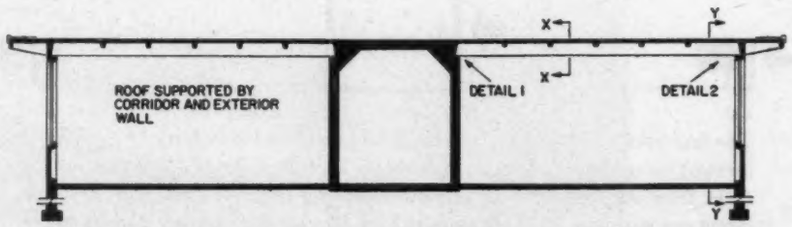
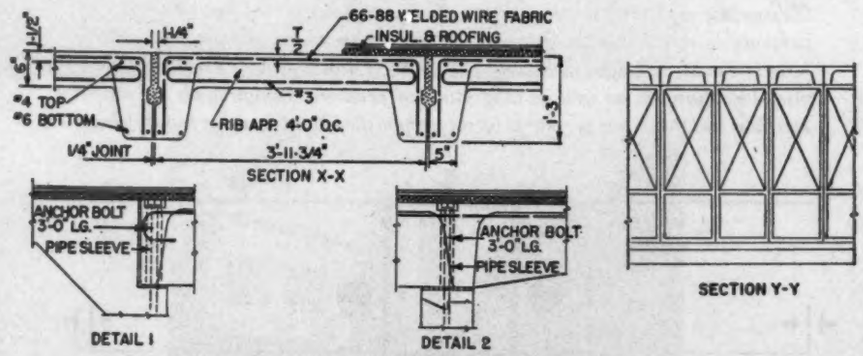


FIG. 5 Precast roof and exterior walls, poured-in-place corridor



The two designs shown for the corridor unit in Figs. 6 and 7 are intended to resist blast pressure at distances of from 2000 to 5000 ft for a nominal bomb, 4300 to 10,800 ft for a ten-fold bomb, and 20,000 to 50,000 ft for a thousand-fold bomb.

Earlier it was pointed out that blast resistance could be obtained through judicious use of materials at little or no additional cost over less durable construction. As an example, consider the cost of providing blast resistance in a reinforced concrete corridor cell, as described. This cost would be averaged over a 58-ft width, consisting of a 10-ft wide corridor with a 24-ft wide classroom on each side. The cost might be from $0.50 psf less to $0.50 psf more than a conventional wall-bearing type of construction.

A blast-resistant corridor with shear walls serving as partitions between classrooms is shown in Fig. 4. These shear walls resist lateral movement through strength in shear and act to prevent side sway of the corridor walls. In this way, vertical bending moments in the corridor walls are reduced. All potential missiles, particularly objects containing glass, should be eliminated from corridors if they are to serve as shelters. Doors should be latched open when the shelter is to be used. Incombustible draperies over the opening would protect occupants from flash burn. (Blast-resistant doors could replace both.) In fact, illustrations appearing in the booklet "Effects of Atomic Weapons" show that a cloth baseball cap worn by a Japanese civilian was enough to protect the top of his head and brow against flash heat, while his lower face received burns. Incombustible draperies alone, however, might permit entrance of sound into rooms during normal use.

Lighting fixtures should be either recessed, or firmly fixed to the ceiling as near flush as possible. They should be provided with a plastic face or cover.

Improving the Whole Structure

Improving the whole structure, in addition to certain sections to be used as bomb shelter areas, would render the school usable after attack, for emergency purposes and later for reconversion to school use.

If a central blast-resistant core is provided, then saving the remainder of the classroom wall and roof framing is greatly simplified. A corridor built as described to act as a bomb-shelter is strong enough to provide the rigid frame

action necessary — the needed lateral resistance. This means that the members outside the core unit — the outer classroom roof and wall — need resist the blast only as simple beams; they do not have to possess lateral stability. To prevent collapse by bending, it is necessary to provide only local bending and shear strength.

While the corridor unit will be exposed virtually to the same total lateral pressure regardless of the size of window openings in the classroom walls, the local bending strength required by the exterior walls can be greatly reduced by an increase in the window area. The net pressure acting on the exterior walls and roof is lessened where large window openings in these walls permit the blast to enter and counteract the external blast pressures. Any type of framing adequately designed to resist the unbalanced pressure loads will suit this purpose. However, the stronger and more massive roof systems should be selected. Reinforced concrete slabs, supported by reinforced masonry partition walls and by concrete columns, provide a tough blast-resistant classroom framing that can be designed readily for any degree of resistance. If large windows are used, little strength beyond that for vertical loads would be required.

Door and window glass would undoubtedly be blown in, hung ceilings would fall, loose or weakly-attached equipment would be blown about, and in general the area would not be suitable for shelter against blast or radiation. However, after removing debris and covering the window openings, these areas could function for post-attack use. To reduce missiles and damage, the window sash should be firmly anchored.

Precasting

Still another way of improving the blast resistance of new school buildings is to take advantage of the economy of precast reinforced concrete construction for walls, floors and roofs. This means of providing blast resistance may be used in either or both of the general approaches listed above, i.e., in providing over-all or partial protection.

Schools that are relatively simple in plan lend themselves well to modular design. Adapting precast elements to modular construction makes it possible to take advantage of "mass production" construction methods, employing a minimum number of panel types repetitively. Panels can be cast in a plant or on the site and then tilted or lifted into place. Procedures for casting such slabs are well-established. The panels, depending upon insulation requirements, may be either "ribbed" or "sandwich" type — a smooth exterior surface perhaps being best. Along with its proven low cost, precast construction also offers excellent blast resistance when properly designed and detailed to insure adequate interaction between component elements; careful attention must be paid to anchorages and to continuity. In order to take full advantage of the economy of precasting, building plans should be standardized as far as practicable and a modular system adopted.

Unquestionably, in areas and on projects where modular precast construction is feasible, good protection against atomic blast can be obtained at savings in initial cost.

A precast concrete panel roof may be supported either by a rigid frame corridor unit and exterior walls or by cast-in-place stiff shear walls. Another possibility is to use precast units also for the partition walls. Figure 5 shows both the exterior walls and roof units precast and connected to a central corridor which is cast in place. This arrangement, where the partitions between classrooms are not depended on for carrying roof loads, would permit greater flexibility in room arrangement.

Auditoriums and Gymnasiums

Most schools will have one or more long-span areas, a gymnasium, for example. In small schools a single multi-purpose room may also serve as lunch room and auditorium. Auditoriums and gymnasiums are particularly vulnerable to blast, since they ordinarily are built with high, un-reinforced load-bearing walls or slender columns, and the roof is frequently supported by light roof members, weakly connected to the supporting wall structure.

It is more difficult to provide blast resistance in these areas, but they are so potentially useful in emergencies that every attempt should be made to make them safe.

The two primary difficulties in providing the desired resistance in such areas are: (1) to carry the intense local pressures on the long roof and wall spans, and (2) to provide the relatively high degree of lateral stability needed to prevent collapse.

It appears impractical to enclose high-ceilinged auditorium or gymnasium areas with blast-tight walls and roofs. For example, a roof structure alone for an

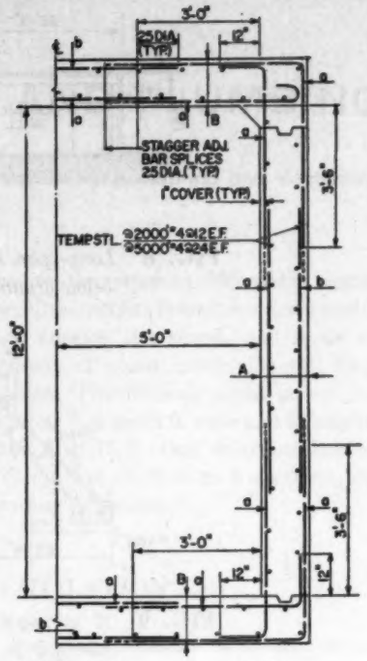


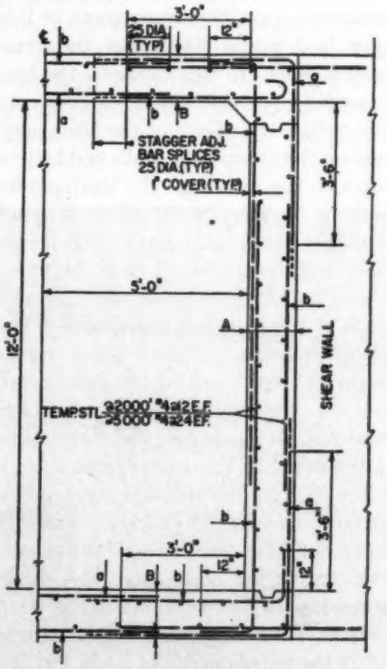
FIG. 6

A	8 in.
B	8 in.
a	#@43 ½ in
b	#4 @7 in.

CORRIDOR DETAILS

Above: reinforcing pattern for a rigid frame corridor. Below: reinforcing for a rigid frame braced laterally by shear walls. Designs are for 5000 ft from ground zero with a 20 kilo-ton atomic bomb

FIG. 7



A	8 in.
B	8 in.
a	#4 @5 in.
b	#4 @10 in.

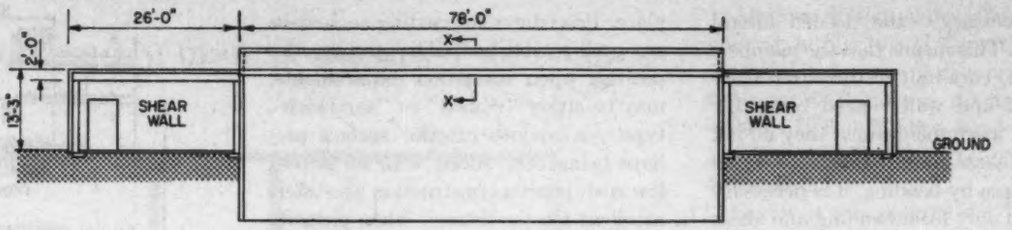


FIG. 8 *Long-span structures are difficult to make blast resistant. Setting part of the building below ground and flanking it with classrooms partitioned by shear walls helps*

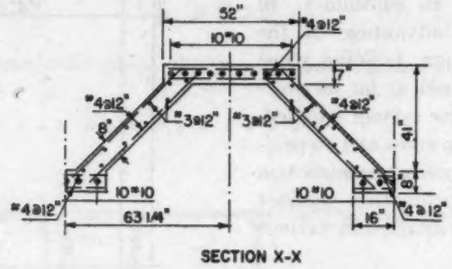


FIG. 9 *A corrugated long-span roof has strength to resist unbalanced roof loads and to transmit lateral loads from side walls to shear walls*

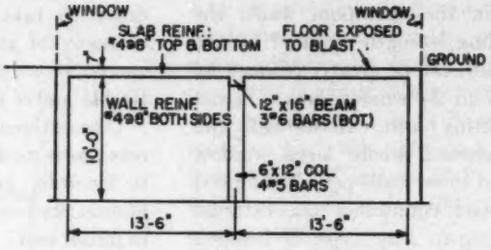


FIG. 10 *Framing and reinforcing is given for a basement shelter which could go directly under the classroom-corridor wings shown previously*

80-ft span designed to resist the full pressure of the "small" nominal bomb at 5000 ft would cost close to $5 per square foot. For a 100-ft span the cost would be approximately $7 per square foot.

For shorter spans it may be advantageous to depress part of the building below the surface of the protecting earth. The example shown in Fig. 8 indicates a possible arrangement of this type that would strengthen the gymnasium walls. In this example, the surrounding earth and flanking rooms screen and reduce the effects of the blast pressure on the gymnasium walls and help to support the building. By strategically locating the interior partitions of rooms flanking the gymnasiums and giving them sufficient strength to act as shear walls, the weaknesses in the long side walls of the gym are counteracted. The partition walls dividing these rooms brace the long walls of the gymnasium and act as buttresses or counterforks to transmit the loads into the foundation.

Windows of the gymnasium are located high above the floor, just below the roof line. This high location assures some radiation and thermal heat protection to lagging occupants. The corrugated hipped roof as shown in Fig. 9 not only provides the strength necessary to carry the unbalanced roof loads, but also acts as a horizontal girder to transmit the lateral reactions to the shear walls (see Fig. 8 at top of page).

For longer roof spans it may be more advantageous to place the structure above ground and to use as much window area as possible to reduce the unbalanced pressure on the roof. (Windows will blow out immediately, letting pressure enter the building.) However, in the latter case the portion of wall area should be provided as shear wall, to carry the lateral forces to the foundation.

Because of the glass areas and the relative weakness as compared to corridor and basement shelter areas, the gymnasium cannot be recommended for shelter use. It can, however, be designed to withstand appreciable blast loads and remain intact for post-attack use at distances much closer to ground zero than would be possible in customary designs.

Special rooms like shops, project areas and cafeterias in which spans are over 30 ft may be considered in the same category as gymnasiums.

Cost-Distance Ratios

Figure 1 is based on studies of the cost of providing blast resistance for multi-story apartment buildings. It can also be used to estimate the cost of reducing the area of destruction of such buildings when they are subjected to forces caused by bombs of various sizes. The chart has been included because it presents graphically some idea of the cost of providing construction which will limit damage to any part of a school building within reasonable amounts.

The cost of protecting certain limited areas in school buildings — providing "bomb shelter" corridors and basement — and at the same time reducing the damage in the remainder of the school, will be considerably less than the cost of providing blast resistance for multi-story buildings.

Actually, the building frame — the basic factor in providing maximum blast resistance — is a relatively small item in the total cost of a structure. The cost of a reinforced concrete frame built to provide a high degree of blast resistance would be competitively reasonable.

Experience has shown that construction as described above is most effective in withstanding not only A-bombs but also fire, earthquakes and tornadoes as well. For example, one of the early reinforced concrete structures on the West Coast — the Leland Stanford Jr. Museum at Palo Alto, Calif. — came through the 1906 earthquake with but minor damage.

A blast-resistant school of concrete need not be stereotyped or unattractive — the architect still has freedom in arrangement and appearance.

This statement bears repeating: our children's schools can be made far safer against atomic blast, fire, earthquake, hurricanes and tornadoes with little, and in certain cases, no extra cost. In an era of school construction this is a fact that should not be overlooked.

PART 2

HEATING, AIR CONDITIONING AND PLUMBING

By Nathan N. Wolpert, Associate Editor, Air Conditioning, Heating and Ventilating

This concludes a review of trends and new developments over the last two years in equipment and systems. Part 1 appeared in the March issue and covered fuels, heating and cooling. Part 2 deals with ventilation, insulation, pipes and ducts, controls and plumbing.

FILTERS

Filters are necessary not only to prevent large smudge areas around air outlets and to halt the discharge of dirt particles into rooms, but to filter out pollen and dust.

For the home, there is a ceiling suspended electrostatic air cleaner placed in the main return air duct of a forced warm air heating system. It is said to remove about 90 per cent of all airborne dust and pollen and is effective against tobacco smoke. The only electrical requirement is a connection to a 115-volt a-c power line. A standard unit handles from 1000 to 1200 cfm although for larger homes there is a model for 2000 to 2400 cfm. Units clean both recirculated and fresh air.

One of the family of electrostatic filters has a simple push button method of spray washing with the filters remaining completely in place. Accumulated dust on the electronic collector plate is flushed away by hot water from needle spray nozzles. The header with its sprays moves across the face of the filter and at the end of the run it reverses automatically. After the washing step, the same header applies an adhesive oil on the cleaved collector plate surface. This oil binds the dirt particles to the plate and acts as a solvent for the washing operation. Powerpacks and control units are located outside the unit.

One washable filter utilizes the static electricity characteristic of polyethylene film. When air is forced through the filter, it takes on an additional electrostatic charge which attracts dust particles. The filter is cleaned by being rinsed in clear water. It is 1-in. thick and comes in 4 sizes and various models.

For use in commercial and industrial air conditioning and ventilating systems, there is an automatic self-cleaning air filter of fiberglass. Filtering medium is a continuous length of fiberglass material that is supplied in rolls of about 70 lineal ft. This roll is mounted at the top of the filter casing and is transported on a continuous screen that rotates over top and bottom circuits, down the face of the filter and is rerolled at the bottom, after collecting its dust load. A pressure switch, sensitive to the pressure differential across the filter curtain, actuates a drive motor that rotates the screen and feeds an amount of clean media for the filter curtain. The filter is made in vertical sections 3, 4 and 5 ft wide and in heights from 5 to 15 ft. One drive mechanism will operate from 3 to 6 sections, depending on height.

VENTILATION

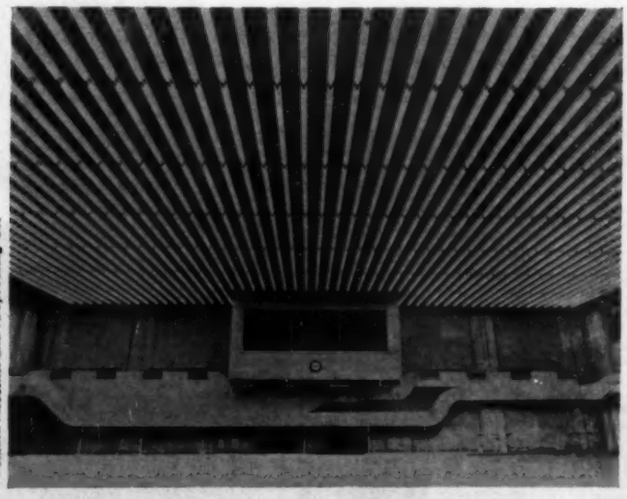
The roof ventilator is favored as an inexpensive means for removing heat from a house to provide some cooling in summer, particularly at night. An attic ventilator for a sloping roofed house has an air opening of 120 sq in. and is low in height to provide an inconspicuous appearance on the roof. It is designed to fit shingled roofs on any pitch. The ventilator is flanged, baffled and screened and is watertight. It is made in galvanized steel, aluminum and copper.

A three-speed fan for homes and small commercial installations is mounted on an outside wall or roof and is connected to interior grilles in the walls or ceiling. Standard 7-in. round ducts lead from the grille inside the building to the fan. Motor and fan are outside the grease-

Flexible tubing in this suspended ceiling provides 40-degree turns for every 10 ft of the duct run



Flexible Tubing Corp.



Columbia Acoustics and Fireproofing Co.

Sprayed on mineral wool serves as sound insulation in this TV studio; it also can be used for insulating against heat

laden air stream to reduce maintenance.

To cut down on fan noise, there is a galvanized steel or aluminum sound trap to fit inside a duct. It is available in 11 standard sizes and in three types for various sound conditions.

A complete prepackaged perimeter duct system for a 6-room house can be ordered by specifying one of four kits. Packaged system includes everything needed for a 6-room house — registers, return air duct material and plenum chamber. Sets come for 4½ and 6-in. individual round type systems; 4½ and 6-inch extended plenum systems with sidewall or floor diffusers.

INSULATION

A one-piece, molded glass fiber pipe covering can easily be spread at the seam so as to snap over the pipe and then return to its original shape. It will not break, powder or crumble or bend out of shape.

A special blend of mineral wool fibers is applied to ceiling and walls by a spray gun method for building interiors. It can be applied to any clean rigid surface such as metal, plaster, wood, wire lath.

A double glazed insulating window is said to be particularly desirable for air conditioning and refrigeration applications. The window consists of 2 layers of ⅛ in. glass with 3/16 in. air space between. Under average conditions, the heat transfer is reduced to one-half that for single glazed windows. It is available in sizes up to 50 by 62 in.

For a vapor barrier there is a liquid plastic which is sprayed on a surface to provide a rubber-like sheeting 20 to 40 mils thick. The spray, which comes in several colors, can also be used as a corrosion resistant flashing and lining for air conditioning ducts.

An insulating mat, reinforced with parallel strands of glass yarn and coated with waterproof asphalt material can be used as a vapor barrier under basementless buildings, weather sealing for above ground insulated pipe and exposed ducts. It can also be used as a lining for swimming pools. It is flexible and will not rot. It can be cut with a knife and sealed with a rapid-sealing asphaltic cement.

PIPE AND DUCTS

Plastic pipe is coming into use and offers a number of advantages; however, one must have an understanding of the various types available and know the limitations of each and how it should be used. This pipe has been used for outdoor skating rinks, snow melting installations, radiant heating, lawn sprinkling systems and gas and water services to houses.

There are various methods for joining plastic pipe, from the use of a cement or adhesive to metal fittings. Brass fittings are available that have teeth which grip the pipe. Fittings are easily removed and can be used again. A sleeve is slipped over the pipe and there is a tapered adapter or coupling inside. As the sleeve is tightened, teeth grip the pipe inside and out. Fittings come in sizes from ½ to 2 in.

For use in new buildings, and particularly suitable for existing buildings, is a flexible tube that can be used for air conditioning and ventilating systems. A continuous galvanized steel spring is covered with a permanently bonded 3-ply laminate of fiberglass fabric sandwiched between two layers of aluminum sheeting. In installation, the tube can be worked around existing obstructions. It comes in diameters of 2 to 10 in. and in 12 ft lengths.

CONTROLS

Today almost everything in the fields covered by this article is automatically controlled, from the thermostat which controls the operation of heating systems to the television unit which transmits gage readings from a remote point to a viewing monitor. There are controls to insure proper operating cycles and devices which serve as safety measures.

A self-powered control system for gas burners requires no electric power connection, and is no larger than a matchbox. A very small amount of gas is introduced through minute holes spaced relatively far apart to permit a sufficient amount of secondary air to mix with the gas for complete combustion. Electric power, supplied by a thermopile, ranges from 500 to 800 mv depending on the temperature of the surrounding air, and the type and pressure of the gas being used. The same pilot that heats the thermopile ignites the main burner. One orifice is used for natural, mixed and manufactured gas. A readily interchangeable orifice is used for LP gas.

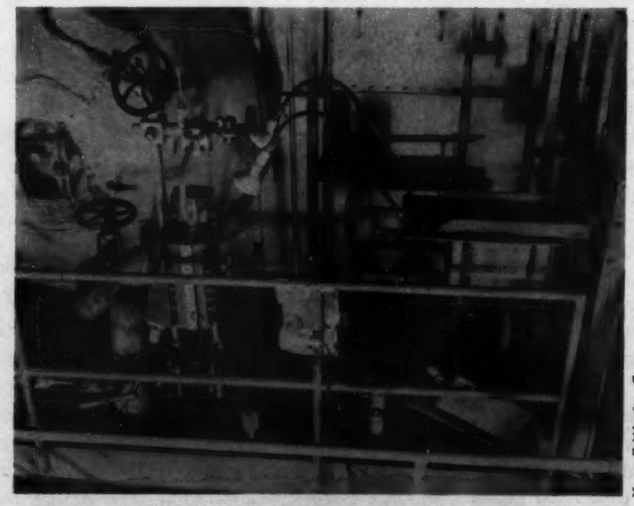
A safety control is available for pressurized oil burners to prevent excess oil flow should the fan fail to operate. The control is mechanical and requires no electrical connection. Air pressure against a diaphragm actuates the device,

(*Continued on page 230*)

Electronic air cleaner is washed automatically by motorized nozzle. Adhesive is then reapplied



Westinghouse Electric Corp



Yarnall-Waring Co.

Closed-circuit television makes possible remote readings of boiler gages in a central location. Camera is at lower right

Construction Economies

STEEL PANELS DO DOUBLE DUTY

(1) as formwork for a concrete floor and

(2) as a finished ceiling that incorporates both acoustical and lighting elements

Expensive formwork for reinforced concrete floors has been cut to a bare minimum in Detroit schools — and so have construction time and costs. The key is a light-gauge steel panel which on the topside is a permanent form for the concrete and on the underside is a finished ceiling in which is integrated acoustical treatment and lighting troffers.

As forms for concrete, the double-duty panels need supporting at the midspan and ends only, thus eliminating much of the materials, cost and labor usually necessary for forming and shoring. Designed for long spans, they are each 24 in. wide and have depth and coverage directly comparable to that of rib slab or metal pan construction.

The panels are hoisted for placement to pre-set supporting shelves attached to the main beam forms. Reinforcing is placed in the panel voids and is tied and interlocked with bars which are laid in the main beam forms and connected to the extended column steel. Since the panels become free-hanging after the shoring is removed, transverse suspension bars are welded to the panels which are then embedded in the poured concrete.

Conduit feeders to supply the troffer panels run in the beams perpendicular to the span of the panels, and individual feeder lines run through each troffer unit. When the detail work by electricians, welders and steel workers is finished, concrete is poured over the panels and suspension bars. The main beam formwork is stripped and the shoring removed after the concrete is cured. Because the suspended panels carry no building loads after the concrete is cured, fire-resistance ratings are based on the reinforced concrete system.

Any combination of the panels can be used, usually depending on the desired lighting level. The acoustical panels are perforated and backed up with a noncombustible element to insure a high acoustical rating. These elements, and also the conduit boxes for the lighting elements, are attached to the panels before they are hoisted into position. Light fixtures are connected after the ceiling has been painted and the light diffusers have been attached to provide a finished flush ceiling.

The Detroit Board of Education introduced this fast new construction system into its school building program in an attempt to keep pace with the expanding need for school facilities. The TAC (Troffer-Acoustic) panels, manufactured by the Detroit Steel Products Co., are being applied at present in 23 Detroit schools.







Panel ends rest on wooden forms. Conduit feeders are run through these main beam forms and into ends of troffer units. A single line of shoring at mid-span of the panels is all that is needed for support while concrete is being poured. Panel ends are supported by same shoring as for main concrete beam forms





Ceiling panels, with cold cathode lighting exposed at left and light diffusers installed at right, in Samuel Gompers School, Detroit (Donaldson & Meier, Architects). Glass blocks add natural daylighting

Construction Economies

CHURCH ASSEMBLED IN THREE DAYS

(1) with load-bearing aluminum panels,

(2) tapered steel roof trusses and

(3) aluminum batten seam roofing

Load-bearing aluminum wall panels, tapered steel roof trusses and aluminum batten seam roofing were assembled by a five-man crew in three days to complete the 128- by 40-ft shell of St. Thomas More Church in Bethel Borough, Pa.

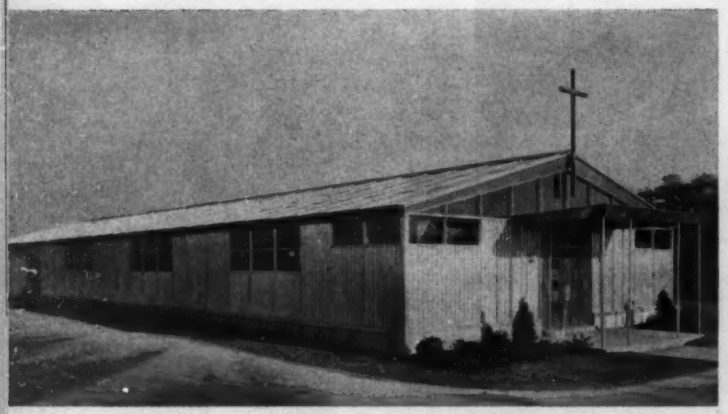
This rapidly expanding parish needed an edifice which could be constructed quickly and economically and which could be dismantled and moved to another site if necessary. The architects consider this prefabricated, load-bearing system an answer not only to the needs of St. Thomas's and other churches but also to the present need for schools and small office buildings. Actual costs came to about $13.00 per sq ft of floor area, for a seating capacity of about 500.

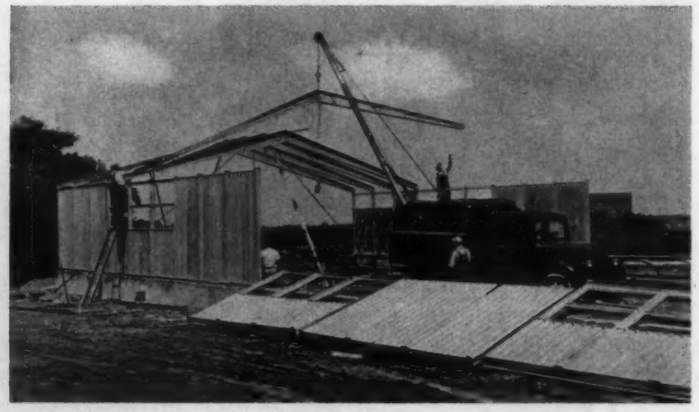
The basis of the prefabricated church is a load-bearing wall system in which the panels consist of a ribbed extruded aluminum facing, glass fiber insulation and an interior facing sheet of galvanized steel. Engineered to withstand roof and wind loads, the 4- by 8-ft panels were pre-assembled at the plant into units 12 ft long. Aluminum load-carrying members are integral in each panel, and some contain aluminum window and door frames.

The photograph below illustrates how the structure was raised. The wall units were bolted to a reinforced concrete curb which extends 15 in. above the concrete floor slab. Tapered steel roof beams were hoisted up for bolting to the panel heads. Rigid insulation and aluminum batten seam roofing cover a steel deck which was applied over the beams. The natural aluminum exterior assures a cool interior during the summer months by providing maximum radiant heat reflectivity.

The ceiling height is 9 ft 3 in. at the side walls and 14 ft 6 in. at the peak of the roof trusses. White plastic diffusers for recessed fluorescent lights and an acoustical ceiling of unpainted glass fiber rest on the lower flanges of the beams. The natural color of the glass fiber blends with the beige vinyl plastic which covers the galvanized steel interior side walls and the striated plywood, painted to match, in the nave and sanctuary.

Schell, Deeter and Stott, Architects, of Pittsburgh, who developed the system jointly with the engineering staff of Aluminum Structures, Inc., of Pittsburgh, are now planning other churches and schools using the system. They feel that the wide range of panel styles available for one- and two-story buildings offers a variety of design possibilities to architects who must meet conditions similar to that of St. Thomas More. Specially designed roof trusses are fabricated for flat, shed and ridge roofs. Buildings using the load-bearing wall system can be planned to almost any shape, providing the clear span does not exceed 48 ft and providing also that they are based on a 4-ft module.



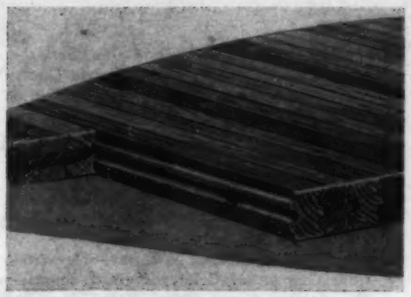




A proposed parochial elementary school designed by Schell, Deeter and Stott for a parish near Altoona, Pa., combines flat roof trusses and load-bearing aluminum wall panels with some stone

(Roundup continued on page 243)

NEW PANELS HAVE STEEL DOWELS, SOUNDPROOFING, PREFINISHING, ALUMINUM CORES



(1) Steel-doweled Floor Planks

Planks 1 ft wide for structural flooring, roof decking or wall partitions are laminated by a new method: a steel spiral drive dowel 11⅞ in. long is pushed under 3000 lb hydraulic pressure through a hole pre-bored to the pitch diameter of the drive dowel in 14 hardwood edge-grain strips. The drive dowel creates threads in the tongue-and-grooved strips which result in a holding power that resists any forces that attempt to separate them. The Doweloc planks are fabricated in lengths from 6 to 60 ft and in thicknesses of 1, 1½ or 2 in. depending upon structural strength and usage. They come in five species of hardwood: oak, hickory, beech, birch and maple. *Edge Grain Timber Products, Inc., Huntington Bank Bldg., Columbus 15, Ohio.*

(2) Movable Acoustical Walls

Movable, acoustical wall sections are prefabricated in 4- and 5-ft lengths, 2½ in. thick, and lock together by a wooden spline and three bolts to form a "wall run." Surfaces are of perforated Presdwood, triple-coated in a semi-flat finish, and enclose an acoustical core of



mineral board surrounded by thick spun glass. The sections are available in 7- or 8-ft heights, with provision for ceiling-high fillers. They come either glazed or unglazed and with or without doors. Each section has self-contained individual raceways for power and communication wiring. *G R Products, Inc., 142 Federal Square Bldg., Grand Rapids, Mich.*

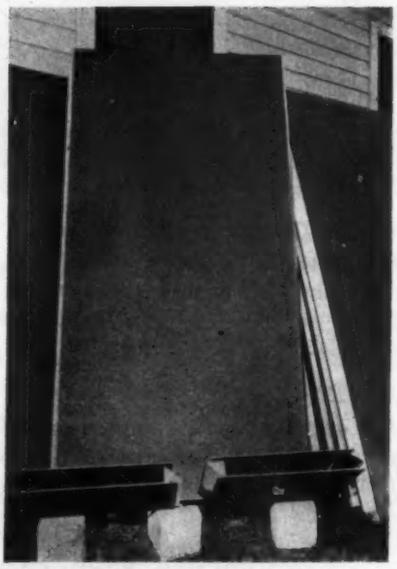
(3) Prefinished Hardwood Panels

Prefinished hardwood panels are safeguarded after a regular furniture finish by an application of furniture finishing wax and a hand rubbing. The lightweight panels come in nine hardwoods, including mahogany, walnut, birch, cherry, red oak and limba, and in standard size: 4 ft wide by 8 ft long by ¼ in. thick. They can be cut to fit any space. Fine-Wood never requires refinishing, the manufacturer claims, as the panels are impervious to weather conditions. *Dulaney Plywood Corp., 300 West Main St., Louisville 2, Ky.*



(4) Aluminum-core Panels

A structural panel consisting of two Masonite Panelwood faces sandwiching a reflective aluminum-strip core can span beams or studs 4 ft apart to provide roof decking and walls. The cutaways of a Redi-Panl, shown right with some 4- by 8-ft panels, illustrate not only the structure of the panels but also the abutting ends. The Panelwood is finished with a prime coat ready for application of veneers of brick or tile, shingles, paints or decorative plywood. Redi-Panl, which can be cut with metal saw or cutting wheel, has sections for plumbing wall, windows, doors and part panels for odd measurements. Both Redi-Panl and Redi-Dek can withstand loads of 198 psf. *Home and Building Parts Co., P.O. Box 12026, New Orleans 24, La.*



TRIM "SNAPS ON" WINDOW AND DOOR FRAMES IN GYPSUM WALLBOARD

A "Snap-On" Trim for window and door openings in gypsum wallboard constructions snaps in place quickly and stays in place permanently. The metal bull-nose trim is delivered with the side sections having right and left mill-cut copings. Head sections are cut on the job from standard lengths. As shown in the illustrations at right, the frame has





saw kerfs 1/16 in. wide and cut at a 5-deg angle toward the face side of the jamb. The trim, after cutting, snaps into the kerfs and projects less than ⅛ in. from the finished walls. Rough-mitered head trim is covered at corners by side trim. *U.S. Gypsum Co., 300 West Adams St., Chicago 6, Ill.*

(Products continued on page 248)

BUILDING PRODUCTS LITERATURE AWARDS

Awards for the best in Building Products Literature for 1954 will be made on June 20 at the Annual A.I.A. Convention in Minneapolis. Five Certificates of Exceptional Merit and 62 Merit and Honorable Mention awards will be given in the largest of the annual competitions, sponsored jointly by the American Institute of Architects and the Producers' Council to recognize excellence in product literature directed to the architect.

M. Edwin Green, F.A.I.A., of Harrisburg, Pa., was chairman of the five-member awards committee, which selected the following literature for Certificates of Exceptional Merit (others listed opposite):

Class I (Manuals, Handbooks, Basic Information): Sound Absorption Coefficients of Architectural Acoustical Materials — Acoustical Materials Assoc.

Class II (Literature on Particular Products): Data Manual 55, Hauserman Movable Interiors — The E. F. Hauserman Co.

Class III (General Promotional Literature): Architectural Woodwork, Brochure Portfolio — The Architectural Woodwork Inst.; Knoll Office Planned Furniture — Knoll Associates, Inc.

Class IV (Space Advertising Directed to Architects): Modern Door Control by LCN, A Series — LCN Closers, Inc.

CLASS I

Certificate of Merit: Store Front Details — Pittsburgh Plate Glass Co.; Grilles — Hendrick Mfg. Co.; Metal Lath Technical Bulletins — Metal Lath Mfrs. Assoc.; Owens-Illinois Glass Block Architectural Catalog — Kimble Glass Co.; Technical Notes on Brick & Tile Construction — Structural Clay Products Inst.

Honorable Mention: Specifications, Structural Clay Products — Structural Clay Products Inst.; Structural Clay Products Catalog — The Clay Products Assoc. of the Southwest; Marble Used as a Radiation Shield — Marble Inst. of America, Inc.; High-Strength Bolting for Structural Joints — Bethlehem Steel Co.; Estimating Production and Construction Costs — Louis Dallavia

CLASS II

Certificate of Merit: Fenestra Steel and Aluminum Building Panels — Detroit Steel Products Co.; Pittsburgh Doorways — Pittsburgh Plate Glass Co.; Overly Door Frames and Doors — Overly Mfg. Co.; Ceco Windows and Doors — Ceco Steel Products Corp.; LCN Door Closers — LCN Closers, Inc.; American-Standard Hospital Equipment — American Radiator & Standard Sanitary Corp.; Milcor Metal Lath and Accessories — Inland Steel Products Co.; Zurn Roof Drains — J. A. Zurn Mfg. Co.; Selection Manual No. 50 — Anemostat Corp. of America

Honorable Mention: The Mosaic Clay Tile Workbook for Architects — The Mosaic Tile Co.; Tile, Real Clay Tile — American-Olean Tile Co.; Fenestra Blue Book of Steel Windows — Detroit Steel Products Co.; Armstrong Floors and Walls — Armstrong Cork Co.; Owens-Illinois Prefabricated Toplite Panels — Kimble Glass Co.; Wakefield Catalogue — The F. W. Wakefield Brass Co.; Prescolite — Prescolite Mfg. Corp.; Zurn Hydrants — J. A. Zurn Mfg. Co.; Shower Cabinets — Flat Metal Mfg. Co.; Ceco Open Web Steel Joists — Ceco Steel Products Corp.; Sanymetal Toilet Compartments — The Sanymetal Products Co., Inc.

CLASS III

Certificate of Merit: Brick and Tile Series — Structural Clay Products Inst.; Carlyle Quarry Tile — The Mosaic Tile Co.; Cupples Curtain Walls — Cupples Products Corp.; The Classroom of Tomorrow — Owens-Illinois; Marble for the Modern Bank — Marble Inst. of America, Inc.; Granite in Places of Worship — Cold Spring Granite Co.; Terra Cotta and Ceramic Veneer — Architectural Terra Cotta Inst.

Honorable Mention: Tone, A Series — Armstrong Cork Co.; Acousti-Celotex Product Sheets — The Celotex Corp.; Mosaic Clay Tile — The Mosaic Tile Co.; Glen-Gery Face Brick — Glen-Gery Shale Brick Corp.; Skytrol Glass Blocks — Pittsburgh Corning Corp.; The LCN No. 303 Closer — LCN Closers, Inc.; Metal Lath News, A Series — Metal Lath Mfrs. Assoc.; Architectural Plywoods — Roddis Plywood Corp.; Novoply — United States Plywood Corp.; Fletcher Granite — H. E. Fletcher Co.; ILCO Indiana Limestone — Indiana Limestone Co., Inc.; Knoll Index of Contemporary Design — Knoll Assoc., Inc.

CLASS IV

Certificate of Merit: Bruce Hardwood Floors, A Series — E. L. Bruce Co.; Stone, A Series — Building Stone Inst.

Honorable Mention: New Fiberglas Installation Method — Owens-Corning Fiberglas Corp.; Cutting Costs with Brick and Tile, A Series — Structural Clay Products Inst.; Ceco-Meyer Steelform Construction, A Series — Ceco Steel Products Corp.; Curtain Wall Construction — The Flour City Ornamental Iron Co.; Ceco Aluminum Windows — Ceco Steel Products Corp.; Flooring, A Series — Kentile, Inc.; PC Suntrol Blocks — Pittsburgh Corning Corp.; Design It Better with Pittsburgh Glass — Pittsburgh Plate Glass Co.; Milcor Steel Trim, A Series — Inland Steel Products Co.; Open Web Steel Joists — Bethlehem Steel Co.; Zourite — The Kawneer Co.

FIRE PROTECTION EQUIPMENT

Fire protection equipment for all types of buildings is described and illustrated in a 40-page booklet from *Elkhart Brass Mfg. Co., Inc., Elkhart, Ind.**

BRICK

A 16-page brochure illustrates the available textures, colors and shapes of *Mabco Brick. Malvern Brick and Tile Co., Malvern, Ark.*

DOOR HARDWARE

Formica hardware for doors is described and specified in a 4-page folder which includes color swatches. *Cipco Corp., 22nd & Cole Sts., St. Louis 6, Mo.*

DIVING BOARD

An *aluminum diving board* is described and illustrated in a 4-page folder from the *American Playground Device Co., Anderson, Ind.*

EXPANSION JOINTS

A complete design guide for application and selection of Flexon expansion joints for pipes is published in 24 illustrated pages by *Flexonics Corp., 1315 So. Third Ave., Maywood, Ill.*

PERFORATED METALS

Most of the 114 pages of a catalog on *perforated metals* are devoted to actual size illustrations of samples. *Standard Stamping & Perforating Co., 3131 W. 49th Place, Chicago 32, Ill.**

CHURCHES: WOOD CARVING, WINDOWS, GRANITE

The Architect's Guide to Expressions in Wood is illustrated with photographs of wood carving designs for interiors of churches and institutions and includes descriptions. *Acanthus Wood Carving Co., 732 N. Morgan, Chicago, Ill.*

Detail drawings, descriptions and specifications of *aluminum church windows* are included in an 8-page catalog from *Industrial Engineering Works, 67 Bloomsbury St., Trenton 6, N. J.**

Granite in Places of Worship is a 12-page catalog describing and illustrating the use of granite for steps, window sills and entrance features as well as for interior elements including altars. *Cold Spring Granite Co., Dept. KP, Cold Spring, Minn.**

KITCHEN EQUIPMENT

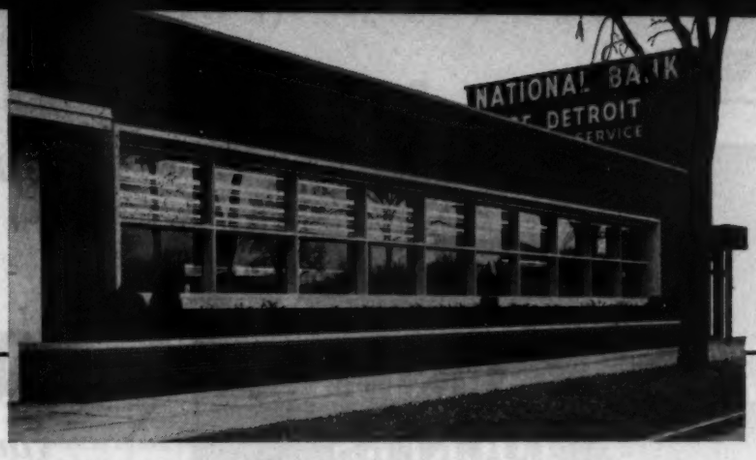
Plans and illustrations of kitchens as well as descriptions of kitchen equipment are included in a 20-page brochure from *Capitol Kitchens, 671 E. 1st Ave., Roselle, N. J.*

**Other product information in Sweet's Architectural File, 1955.*

(Continued on page 298)

See how All-Air High Velocity units

lower the roof

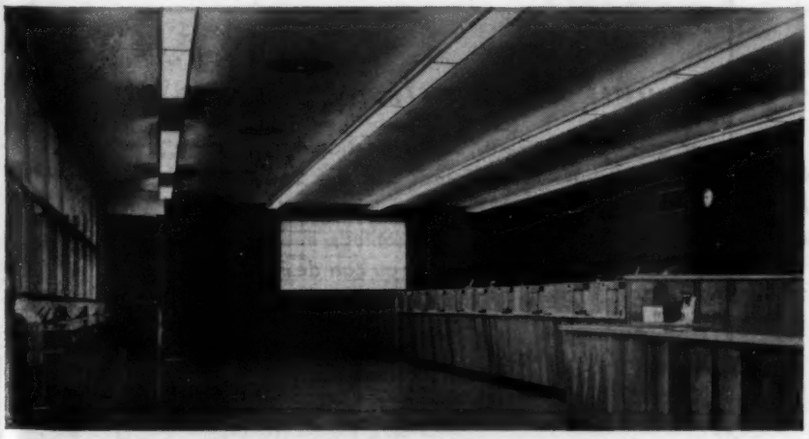


The National Bank of Detroit, which is equipped with an Anemostat All-Air High Velocity distribution system.

This photograph shows the high velocity ducts installed *through* the open web joists. Note how the Anemostat sound attenuation unit is also placed *inside* the open web joist area. As a result, the architects and engineers were able to save *nearly two feet in a one-story building* . . . also make comparable savings in construction costs.



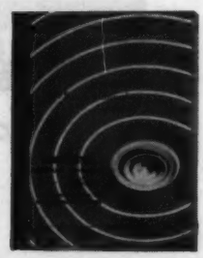
Completed interior with the Anemostat High Velocity units installed in the ceiling.



Facts about All-Air HV units

- Can be used with smaller than conventional ducts.
- Can be installed through open web joists (as shown here) and in many other space-saving applications.
- Can be installed faster and with less cost.
- Require no coils, thus eliminate clogging and odors.
- Round, square and straight line diffusers with high velocity units are adaptable to a wide variety of architectural designs.

- *Architect:* W. ROY AKITT
- *Engineer:* F. A. SANDO
- *Mechanical Contractor:* JOHN M. CAMPBELL, INC.
- *Ventilating Contractor:* AUTOTHERM CORP.



• ***For latest data on All-Air High Velocity units,*** write on your business letterhead for *new Selection Manual 50* to Anemostat Corporation of America, 10 E. 39 Street, New York 16, New York.

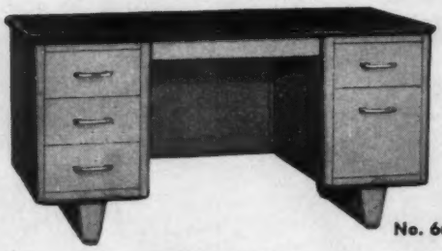
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CHAIRS
FILES
CABINETS
LOCKERS

specify

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your assurance of Beauty and Performance



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A complete line . . . matching tables, bookcases and credenzas for every office need.



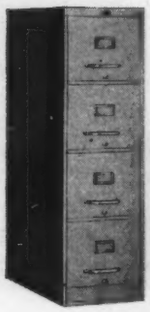
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No. 5211



FILES

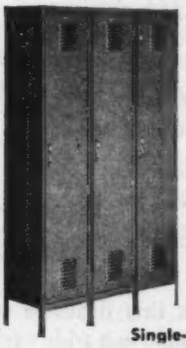
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THERMAL INSULATION — 10: U Factors

By Laurence Shuman, Consulting Engineer

U Factors for Frame Ceilings

ROOFING
INSULATION
CEILING

Legend:

Ceiling Finishes

- A Metal lath and plaster
- B ⅜″ gypsum board, plain or decorated
- C ¼″ plywood
- D Wood lath and plaster
- E ⅜″ gypsum lath and plaster
- F ½″ insulation board
- G ½″ insulation board
- H 1″ insulation board and plaster

Insulation

- 1 None
- 2 1″ flexible
- 3 2″ flexible
- 4 3½″ flexible
- 5 Aluminum foil, 1 sheet
- 6 Aluminum foil, 2 sheets
- 7 Aluminum foil, 3 sheets
- 8 1″ insulation board

Ceiling Type	Insulation	Season	Ceiling Finish A	B	C	D	E	F	G	H
Open joists. No insulation above	1	Winter	.80	.78	.75	.70	.69	.39	.37	.24
		Summer	.53	.52	.51	.49	.48	.31	.30	.21
	2 (on ceiling)	Winter	.20	.20	.20	.20	.19	.16	.16	.13
		Summer	.18	.18	.18	.17	.17	.15	.14	.12
	3 (on ceiling)	Winter	.12	.12	.11	.11	.11	.10	.10	.09
		Summer	.11	.11	.11	.11	.11	.09	.09	.08
INSULATION	4 (on ceiling)	Winter	.07	.07	.07	.07	.07	.06	.06	.06
		Summer	.07	.07	.07	.06	.06	.06	.06	.05
Insulation on joists. No insulation on ceiling	5 (at top to form 1 air space)	Winter	.28	.28	.27	.27	.27	.20	.20	.15
		Summer	.08	.08	.08	.08	.08	.08	.07	.07
	6 (to form 2 air spaces)	Winter	.17	.17	.17	.16	.16	.14	.13	.11
		Summer	.05	.05	.05	.05	.05	.05	.05	.04
ALUM. FOIL	7 (to form 3 air spaces)	Winter	.12	.12	.12	.12	.12	.10	.10	.09
		Summer	.04	.04	.04	.04	.04	.04	.04	.04
INSULATION	8	Winter	.19	.19	.19	.19	.19	.15	.15	.12
		Summer	.17	.17	.17	.16	.16	.14	.14	.11

Ceiling Type	Insulation	Season	Ceiling Finish A	B	C	D	E	F	G	H
1″ (25/32) subfloor (Yellow Pine) on joists	1	Winter	.32	.32	.31	.30	.30	.22	.22	.16
		Summer	.26	.26	.26	.25	.25	.20	.19	.15
	2 (on ceiling)	Winter	.14	.14	.14	.14	.14	.12	.12	.10
		Summer	.13	.13	.13	.13	.13	.11	.11	.10
	3 (on ceiling)	Winter	.09	.09	.09	.09	.09	.08	.08	.07
		Summer	.09	.09	.09	.09	.09	.08	.08	.07
FLOOR	4 (on ceiling)	Winter	.06	.06	.06	.06	.06	.05	.05	.05
		Summer	.06	.06	.05	.05	.05	.05	.05	.05
INSULATION										
	5 (on top face of ceiling)	Winter	.23	.23	.23	.22	.22	.17	.17	.13
		Summer	.09	.09	.09	.09	.09	.08	.08	.07
FLOOR	5 (to form 2 air spaces)	Winter	.15	.15	.15	.15	.15	.12	.12	.10
		Summer	.05	.05	.05	.05	.05	.05	.05	.05
ALUM FOIL	6 (to form 3 air spaces)	Winter	.11	.11	.11	.11	.11	.10	.09	.08
		Summer	.04	.04	.04	.04	.04	.03	.03	.03

U Factors for Flat Roofs

ROOFING
INSULATION
CEILING

Legend:

Insulation on Roof Deck

- A None
- B ½″ insulation board
- C 1″ insulation board
- D 1½″ insulation board
- E 2″ insulation board
- F 1″ corkboard
- G 1½″ corkboard
- H 2″ corkboard

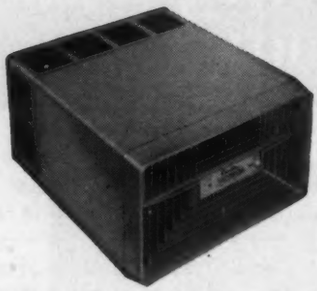
Ceiling Finishes

- 1 None
- 2 ⅜″ gypsum board or plaster
- 3 ½″ insulation board
- 4 ⅜″ gypsum board and 1″ flexible insulation over ceiling
- 5 ⅜″ gypsum board and 2″ flexible insulation over ceiling
- 6 ⅜″ gypsum board and 3½″ flexible insulation over ceiling

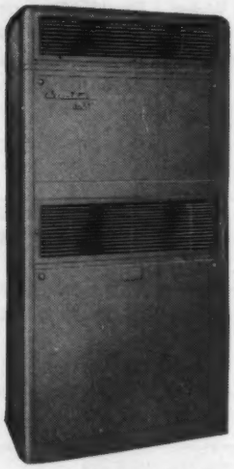
Roof Deck	Ceiling Finish	Season	Insulation on Roof Deck A	B	C	D	E	F	G	H
Metal roof deck	1	Winter	1.04	.43	.27	.24	.15	.25	.18	.14
		Summer	.78	.37	.25	.22	.15	.23	.17	.13
MET. DECK	2	Winter	.46	.28	.20	.16	.13	.19	.15	.12
		Summer	.41	.26	.19	.15	.12	.18	.14	.11
	3	Winter	.29	.21	.16	.13	.11	.15	.12	.10
		Summer	.28	.20	.15	.13	.11	.15	.12	.10
	4	Winter	.17	.14	.11	.10	.10	.11	.09	.08
		Summer	.16	.13	.11	.10	.09	.11	.09	.08
MET. DECK	5	Winter	.10	.09	.08	.07	.07	.08	.07	.06
		Summer	.10	.09	.08	.07	.07	.08	.07	.06
	6	Winter	.06	.06	.05	.05	.05	.05	.05	.05
		Summer	.06	.06	.05	.05	.05	.05	.05	.05

Roof Deck	Ceiling Finish	Season	Insulation on Roof Deck A	B	C	D	E	F	G	H
Concrete roof deck 2″ thick	1	Winter	.89	.40	.26	.19	.15	.23	.17	.14
		Summer	.70	.35	.23	.18	.14	.22	.16	.13
	2	Winter	.43	.27	.20	.15	.13	.18	.14	.12
		Summer	.39	.25	.18	.15	.12	.17	.14	.11
CONCRETE	3	Winter	.28	.20	.16	.13	.11	.15	.12	.10
		Summer	.26	.19	.15	.12	.11	.14	.12	.10
	4	Winter	.16	.13	.11	.10	.09	.11	.09	.08
		Summer	.16	.13	.11	.10	.08	.11	.09	.08
CONCRETE	5	Winter	.10	.09	.08	.07	.06	.08	.07	.06
		Summer	.10	.09	.08	.07	.06	.08	.07	.06
	6	Winter	.06	.06	.05	.05	.05	.05	.05	.05
		Summer	.06	.06	.05	.05	.05	.05	.05	.05

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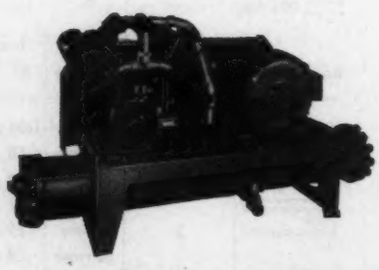
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THERMAL INSULATION — 11: U Factors for Flat Roofs

By Laurence Shuman, Consulting Engineer

Legend:

Insulation on Roof Deck

- **A** None
- **B** ½″ insulation board
- **C** 1″ insulation board
- **D** 1½″ insulation board
- **E** 2″ insulation board
- **F** 1″ corkboard
- **G** 1½″ corkboard
- **H** 2″ corkboard

Ceiling Finishes

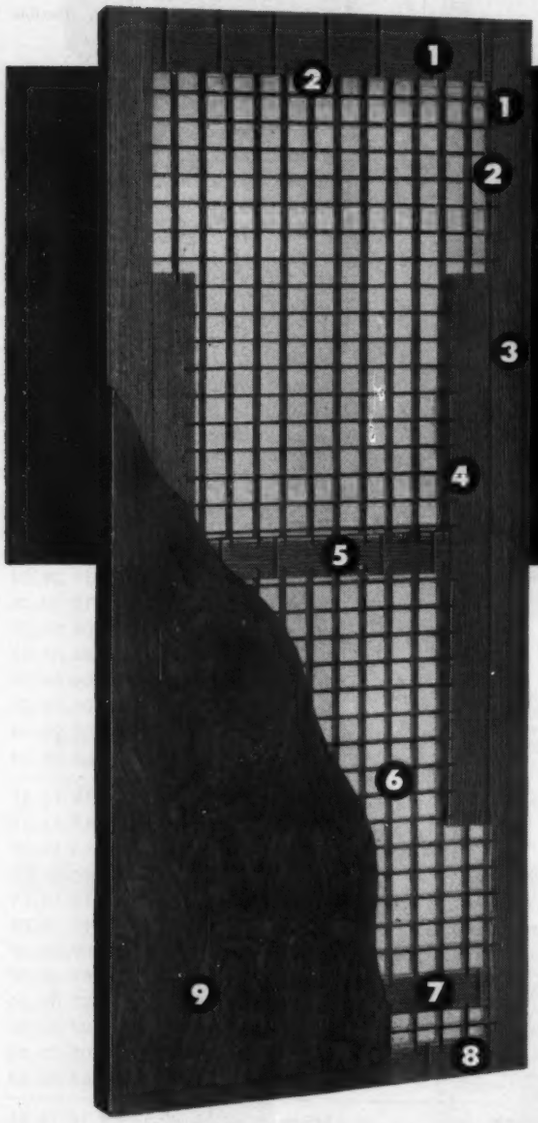
- **1** None
- **2** ⅜″ gypsum board or plaster
- **3** ½″ insulation board
- **4** ⅜″ gypsum board and 1″ flexible insulation over ceiling
- **5** ⅜″ gypsum board and 2″ flexible insulation over ceiling
- **6** ⅜″ gypsum board and 3⅜″ flexible insulation over ceiling

ROOFING
INSULATION
CEILING

Roof Deck	Ceiling Finish	Season	Insulation on Roof Deck A	B	C	D	E	F	G	H
Concrete roof deck 4″ thick	1	Winter	.78	.37	.25	.18	.15	.23	.17	.13
		Summer	.63	.33	.23	.17	.14	.21	.16	.13
	2	Winter	.41	.26	.19	.15	.12	.18	.14	.11
		Summer	.36	.24	.18	.14	.12	.17	.13	.11
	3	Winter	.27	.19	.15	.13	.11	.15	.12	.10
		Summer	.25	.19	.15	.12	.10	.14	.11	.10
	4	Winter	.16	.13	.11	.10	.08	.11	.09	.08
		Summer	.16	.13	.11	.09	.08	.10	.09	.08
	5	Winter	.10	.09	.08	.07	.06	.08	.07	.06
		Summer	.10	.09	.08	.07	.06	.08	.07	.06
	6	Winter	.06	.06	.05	.05	.05	.05	.05	.05
		Summer	.06	.06	.05	.05	.05	.05	.05	.05
Concrete roof deck 6″ thick	1	Winter	.70	.35	.24	.18	.14	.22	.16	.13
		Summer	.57	.32	.22	.17	.13	.17	.16	.12
	2	Winter	.38	.25	.19	.15	.12	.17	.14	.11
		Summer	.34	.23	.17	.14	.12	.16	.13	.11
	3	Winter	.26	.19	.15	.12	.11	.14	.12	.10
		Summer	.24	.18	.14	.12	.10	.14	.11	.10
	4	Winter	.16	.13	.11	.10	.08	.10	.09	.08
		Summer	.15	.12	.11	.10	.08	.10	.09	.08
	5	Winter	.10	.09	.08	.07	.06	.07	.07	.06
		Summer	.10	.09	.08	.07	.06	.07	.07	.06
	6	Winter	.06	.06	.05	.05	.05	.05	.05	.04
		Summer	.06	.06	.05	.05	.05	.05	.05	.04
Wood roof deck 1″ thick	1	Winter	.52	.30	.21	.16	.13	.20	.15	.12
		Summer	.44	.27	.20	.16	.13	.19	.14	.12
	2	Winter	.32	.22	.17	.14	.11	.16	.13	.11
		Summer	.29	.21	.16	.13	.11	.15	.12	.10
	3	Winter	.23	.17	.14	.12	.10	.13	.11	.09
		Summer	.22	.17	.13	.11	.10	.13	.11	.09
	4	Winter	.14	.12	.10	.09	.08	.10	.09	.08
		Summer	.14	.12	.10	.09	.08	.10	.09	.08
	5	Winter	.09	.08	.07	.07	.06	.07	.06	.06
		Summer	.09	.08	.07	.07	.06	.07	.06	.06
	6	Winter	.06	.06	.05	.05	.04	.05	.05	.04
		Summer	.06	.06	.05	.05	.04	.05	.05	.04
Wood roof deck 1½″ thick	1	Winter	.41	.26	.19	.15	.13	.18	.14	.12
		Summer	.36	.24	.18	.14	.12	.17	.13	.11
	2	Winter	.28	.20	.16	.13	.11	.15	.12	.10
		Summer	.25	.19	.15	.12	.10	.14	.12	.10
	3	Winter	.20	.16	.13	.11	.10	.12	.10	.09
		Summer	.19	.15	.13	.11	.09	.12	.10	.09
	4	Winter	.14	.11	.10	.09	.08	.09	.08	.07
		Summer	.13	.11	.10	.09	.08	.09	.08	.07
	5	Winter	.09	.08	.07	.07	.06	.07	.06	.06
		Summer	.09	.08	.07	.06	.06	.07	.06	.06
	6	Winter	.06	.05	.05	.05	.04	.05	.05	.04
		Summer	.06	.05	.05	.05	.04	.05	.05	.04
Wood roof deck 2″ thick	1	Winter	.34	.23	.18	.14	.12	.17	.13	.11
		Summer	.31	.22	.17	.13	.11	.16	.13	.11
	2	Winter	.25	.18	.15	.12	.10	.14	.11	.10
		Summer	.23	.17	.14	.12	.10	.13	.11	.09
	3	Winter	.19	.15	.12	.11	.09	.12	.10	.09
		Summer	.18	.14	.12	.10	.09	.11	.10	.08
	4	Winter	.13	.11	.09	.08	.07	.09	.08	.07
		Summer	.12	.11	.09	.08	.07	.09	.08	.07
	5	Winter	.09	.08	.07	.06	.06	.07	.06	.06
		Summer	.09	.08	.07	.06	.06	.07	.06	.06
	6	Winter	.06	.05	.05	.05	.04	.05	.04	.04
		Summer	.06	.05	.05	.05	.04	.05	.04	.04
Wood roof deck 3″ thick	1	Winter	.26	.19	.15	.12	.11	.14	.12	.10
		Summer	.24	.18	.14	.12	.10	.14	.11	.10
	2	Winter	.20	.15	.13	.11	.09	.12	.10	.09
		Summer	.18	.15	.12	.10	.09	.12	.10	.09
	3	Winter	.16	.13	.11	.10	.08	.11	.09	.08
		Summer	.15	.12	.11	.09	.08	.10	.09	.08
	4	Winter	.11	.10	.09	.08	.07	.08	.07	.07
		Summer	.11	.10	.09	.08	.07	.08	.07	.07
	5	Winter	.08	.07	.06	.06	.05	.06	.06	.05
		Summer	.08	.07	.06	.06	.05	.06	.06	.05
	6	Winter	.05	.05	.05	.04	.04	.05	.04	.04
		Summer	.05	.05	.05	.04	.04	.05	.04	.04
Gypsum fiber concrete roof deck 2½″ thick	1	Winter	.39	.26	.19	.15	.12	.18	.14	.11
		Summer	.35	.24	.18	.14	.12	.17	.13	.11
	2	Winter	.27	.20	.15	.13	.11	.15	.12	.10
		Summer	.25	.18	.14	.12	.10	.14	.11	.10
	3	Winter	.20	.16	.13	.11	.09	.12	.10	.09
		Summer	.19	.15	.12	.11	.09	.12	.10	.09
	4	Winter	.13	.11	.10	.09	.08	.09	.08	.07
		Summer	.13	.11	.10	.08	.08	.09	.08	.07
	5	Winter	.09	.08	.07	.06	.06	.07	.06	.06
		Summer	.09	.08	.07	.06	.06	.07	.06	.06
	6	Winter	.06	.05	.05	.05	.04	.05	.05	.04
		Summer	.06	.05	.05	.05	.04	.05	.05	.04
Gypsum fiber concrete roof deck 3½″ thick	1	Winter	.32	.28	.20	.16	.12	.16	.13	.11
		Summer	.29	.26	.19	.15	.11	.15	.12	.10
	2	Winter	.23	.17	.14	.12	.10	.13	.11	.09
		Summer	.21	.16	.13	.11	.10	.13	.11	.09
	3	Winter	.18	.14	.13	.10	.09	.11	.10	.08
		Summer	.17	.14	.12	.09	.09	.11	.09	.08
	4	Winter	.12	.10	.09	.08	.07	.09	.08	.07
		Summer	.12	.10	.09	.08	.07	.09	.08	.07
	5	Winter	.08	.08	.07	.06	.06	.07	.06	.06
		Summer	.08	.08	.07	.06	.06	.07	.06	.06
	6	Winter	.06	.05	.05	.05	.04	.05	.04	.04
		Summer	.06	.05	.05	.05	.04	.05	.04	.04



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Only REZO offers all these features:

1 One rail is 5" wide and can be used as either top or bottom of the door. Stiles are 3" (nom.).

2 All-wood gridwork is locked into the stiles and rails for greater strength.

3 Matching vertical edge strips can be furnished and finish not less than ½" wide after trimming.

4 Lock area is 6¾" wide and 21" from either end and varies in length proportionate to door height.

5 3" rail for special hardware is 41" from bottom of door to top of rail unless otherwise specified.

6 Heavy duty 2" x 2" air cell all-wood gridwork interlocked for strength and durability.

7 3" rail for kick plate located 10" from bottom of door to top of rail unless otherwise specified.

8 Vent grooves in top and bottom rails help keep moisture content in balance — prevent warpage.

9 Hand-matched hardwood face veneers, 3 ply, of any commercial species. Sanded to cabinetmaker's finish.

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NORTH AMERICAN BUILDING STONES — 17

Presented through the cooperation of the International Cut Stone Contractors' and Quarrymen's Association

INDEX OF BUILDING STONES — (To be concluded in later issue)

73 COLORADO BERTHOUD VARIEGATED
Company Name: Colorado Stone Co.
Quarry Location: Near Berthoud, Col. (Mail address: Longmont, Col.)
Geological Designation: Quartzitic Sandstone
Texture: Very fine-grained, closely cemented, fine texture
Color: Light pink with stripes, bands and swirls of complementary darker colors
Weight: 156 to 162 pcf
Furnished As: Dimensional, Splitface, Ledgestone, Flagging. Heights—1″ to 3″; 1″ to 6″; ¾″ to 2″; 6″ to 11″. Lengths—12″ to 12′
Surface Coverage: Splitface—40 to 44 sq ft per ton. Flagging—120 to 140 sq ft per ton

74 COLORADO LOVELAND BUFF
Company Name: Colorado Stone Co.
Quarry Location: Near Loveland, Col. (Mail address: Longmont, Col.)
Geological Designation: Quartzitic Sandstone
Texture: Smooth, even medium grain; stratified to dense
Color: Light buff with dark or light horizontal lines; off-white with buff and brown stripes and bands; gray-white, gray-white with blue-gray and buff horizontal lines, stripes and colorations
Weight: 150 pcf
Furnished As: Splitface, Ledgestone. Heights—1″ to 3″; 1″ to 6″; ¾″ to 2″; 6″ to 11″. Lengths—12″ to 12′
Surface Coverage: Splitface—40 to 45 sq ft per ton
Other Comments: This stone is from the Lyons Ledgestone formation

75 COLORADO LYONS RED
Company Name: Colorado Stone Co.
Quarry Location: Noland and Beech Hill, near Lyons, Col. (Mail address: Longmont, Col.)
Geological Designation: Quartzitic Sandstone
Texture: Even-grained, smooth stratified to hard dense
Color: Red, pink, rose; red or pink with white stripe, brown and glazed tan on natural seam faces (one side of small percentage of splitface strips); blue, brown, tan on natural strata surfaces
Weight: 150 pcf
Furnished As: Dimensional, Splitface, Ledgestone, Flagging. Heights—1″ to 3″; 1″ to 6″; ¾″ to 2″; 6″ to 11″. Lengths—12″ to 12′
Surface Coverage: Splitface—40 to 45 sq ft per ton. Flagging—120 to 150 sq ft per ton
Other Comments: This stone is from the Lyons Ledgestone formation

76 ETOWAH PINK GEORGIA MARBLE
Company Name: The Georgia Marble Company
Quarry Location: Tate, Ga.
Geological Designation: Marble
Texture: Large sparkling crystals
Color: Pale pink to rose with greenish-black random veining
Chemical Composition: Calcium carbonate—98.2%; magnesium silicate—1.03%; silica—0.48%; alumina—0.09%; oxide of iron—0.04%; moisture—0.16%
Physical Tests: Specific gravity—2.71%; absorption of moisture—0.08%; abrasive hardness—13.4%; carbonic acid test—slight roughening but no granulation
Strength: Crushing strength—13,590 psi. Crushing strength unaffected by freezing and thawing 30 times
Furnished As: Splitface. Heights—⅞″, 2¼″, 5″. Lengths—3′ average, 5′ max., 1′ min.
Surface Coverage: 40 sq ft per ton—one-third 2¼″ thick, two-thirds 5″ thick ashlar veneer (more when higher proportions of low risers are used)
Other Facts: Veining is extremely irregular, runs in all directions.

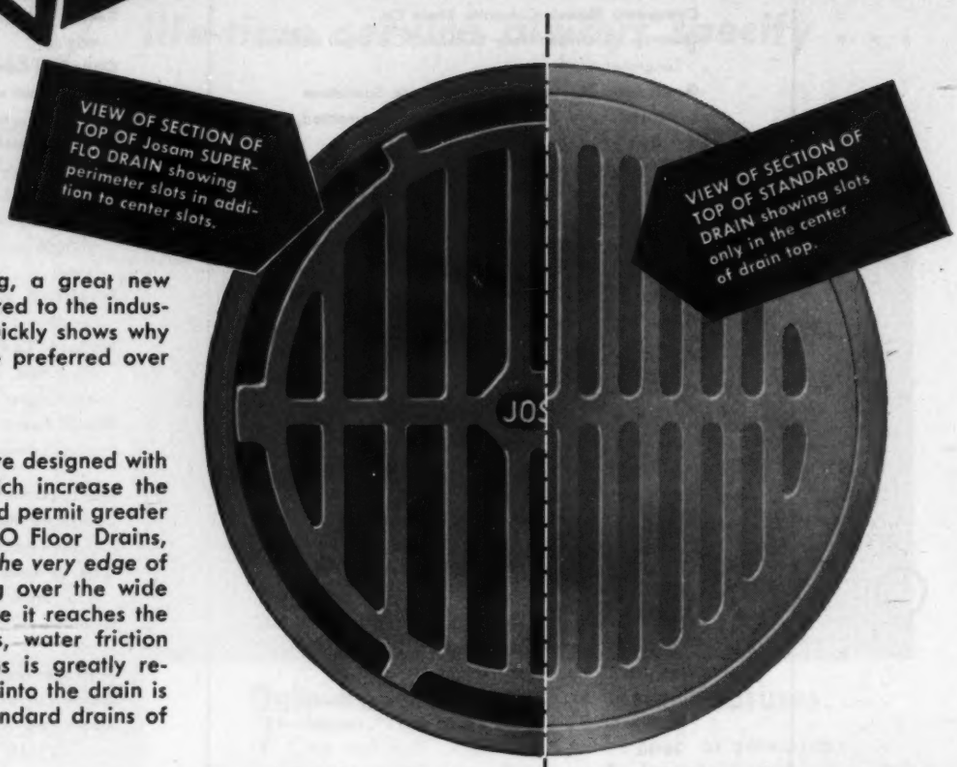
77 FLAGSTONE
Company Name: Palos Verdes Stone Dept., Great Lakes Carbon Corp.
Quarry Location: Rolling Hills, Calif. (Mail address: 612 Flower St., Los Angeles, Calif.)
Geological Designation: Silicified limestone and chert
Texture: Medium coarse
Color: Off-white and off-gray
Furnished As: Splitface. Heights — 1″–3″. Lengths — 12″–48″
Surface Coverage: 30–50 sq ft per ton

78 LYONS REDSTONE, LITTLE THOMPSON COLOR STONE
Company Name: Brown Stone Quarries
Quarry Location: Lyons and Little Thompson Canyon, Col.
Geological Designation: Quartzitic Sandstone
Color: Pink, red candy stick red stripe, pink-white blend
Weight: 160 pcf
Furnished As: Splitface, Ledgestone. Heights—¾″ to 5″. Lengths—14″ to 40″, 4″ width
Surface Coverage: Approx. 40 sq ft per ton 4″ veneer

79 MOSSBACK
Company Name: Palos Verdes Stone Dept., Great Lakes Carbon Corp.
Quarry Location: Rolling Hills, Calif. (Mail address: 612 Flower St., Los Angeles, Calif.)
Geological Designation: Silicified limestone and chert
Texture: Coarse
Color: Light gray variegated with moss
Furnished As: Ledgestone. Heights — 2″–8″. Lengths — 6″–24″
Surface Coverage: 30–50 sq ft per ton

NOW... the greatest drain development in years!

Josam SUPER-FLO



● Through Josam pioneering, a great new advancement in drains is presented to the industry. A comparison of features quickly shows why Josam SUPER-FLO drains will be preferred over conventional drains.

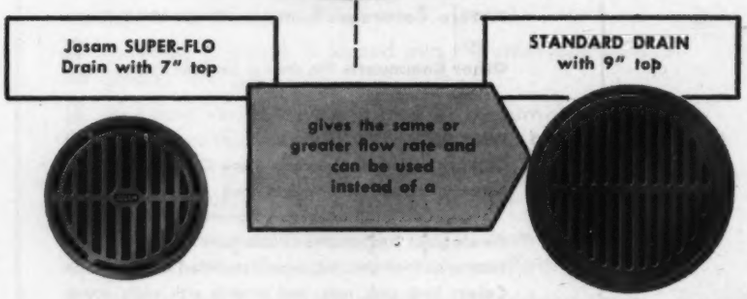
GREATER FLOW

Josam SUPER-FLO Floor Drains are designed with perimeter slots in the grate which increase the free drainage area of the top and permit greater flow into the drain. In SUPER-FLO Floor Drains, waste water enters the drain *at the very edge* of the drain top instead of flowing over the wide rim of conventional drains before it reaches the grate openings. Because of this, water friction loss in Josam SUPER-FLO Drains is greatly reduced, and the flow rate (GPM) into the drain is greater than the flow rate in standard drains of the same or larger size top.

SAVINGS IN COST

Because of the increased flow rate in Josam SUPER-FLO Drains a smaller top size Josam SUPER-FLO Floor Drain can be installed to service the same drainage condition as a larger top size standard floor drain.

Therefore, you benefit not only from savings in the cost of the drain itself but in additional savings because of the number of drains to be installed. No other floor drain offers these exclusive features and advantages.

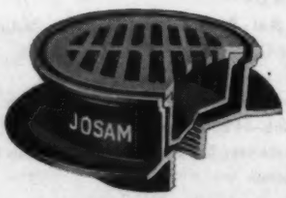




JOSAM SUPER-FLO FLOOR DRAIN with 7", 9" or 13" round top having a free drainage area of 17, 27 and 61 sq. in. respectively, and 2" to 6" threaded bottom outlet.



JOSAM SUPER-FLO AREA DRAIN with 7" or 9" round top having a free drainage area of 17 and 27 sq. in. respectively, and 2", 3" or 4" threaded bottom outlet.



JOSAM SUPER-FLO NON-CLOG TRIPLE DRAINAGE FLOOR DRAIN with removable sediment bucket which supports grate, and 7", 9" or 13" round top having a free drainage area of 11, 16 and 29 sq. in. respectively, and 2" to 6" threaded bottom outlet.



JOSAM SUPER-FLO NON-CLOG AREA DRAIN with removable sediment bucket which supports grate, 7" or 9" round top having a free drainage area of 11 and 16 sq. in. respectively, and 2", 3" or 4" threaded bottom outlet.

SEND COUPON FOR COMPLETE INFORMATION ON FEATURES, MATERIALS AND FINISHES

FLOOR DRAINS

PATENTED



Perimeter slots increase free area of top and permit greatly increased flow rate (GPM).

Constant flushing is obtained by drainage flowing over inside surface of body.

Standardized bodies permit interchangeability of grates, sediment bucket, round or square brass tops, etc.

Flat surface of shallow sloped flange eliminates bending or pre-forming water-proofing.

Size and number of weepholes provide positive double drainage action.

Female threaded outlet, standard. Inside caulk, optional.

For other optional features see opposite page. Complete information in literature.

GREATER SANITATION — Since waste water enters Josam SUPER-FLO Drains through slots at the very edge of the rim, the water flows over the inside surface of the drain body, thereby constantly flushing the inside walls and keeping the drain body free from an accumulation of foreign deposits.

EASIER INSTALLATION — The shallow sloped flat surface of the double drainage flange enables water-proofing or flashing materials to be installed easier and quicker since the material lies flat on flange without bending or pre-forming.

POSITIVE LEAKPROOF PERFORMANCE — Size and number of weepholes in the flange have been increased to provide more positive double drainage action. Any seepage occuring around drain at floor level is directed into the drain body and eliminates leakage to floor below.

GREATER STRENGTH — Additional bearing load strength is developed through increased thickness of grate bars. Greater protection against tilting is provided through grate seating tightly against rim into a deep grate recess.

GREATER INTERCHANGEABILITY — Josam SUPER-FLO drains permit various styles of grates and tops, buckets and other features to be added or substituted even after drain is on the job. This also effects an economy in case of changes in specifications or future requirements because of change in operations.

Josam again demonstrates its leadership in the field of plumbing drainage products through the pioneering and development of the sensationally new SUPER-FLO Floor Drains. Here are drains which more than meet today's construction demands for over-all economy . . . easier installation . . . adaptability to changes...greater sanitation and improved appearance. They will set a new standard for quality and service wherever drains will be specified and used.

Get the complete details on the entire line of Josam SUPER-FLO Floor Drains by sending coupon below.

JOSAM MANUFACTURING COMPANY
GENERAL OFFICES AND MANUFACTURING DIVISION
MICHIGAN CITY, INDIANA

Representatives In All Principal Cities

West Coast Distributor
JOSAM PACIFIC CO., San Francisco, Calif.

Canadian Manufacturers
JOSAM CANADA LIMITED, Toronto, Canada

JOSAM MANUFACTURING CO.
Dept. AR, Michigan City, Indiana
Please send 8 page Booklet on new Josam SUPER-FLO Floor Drains

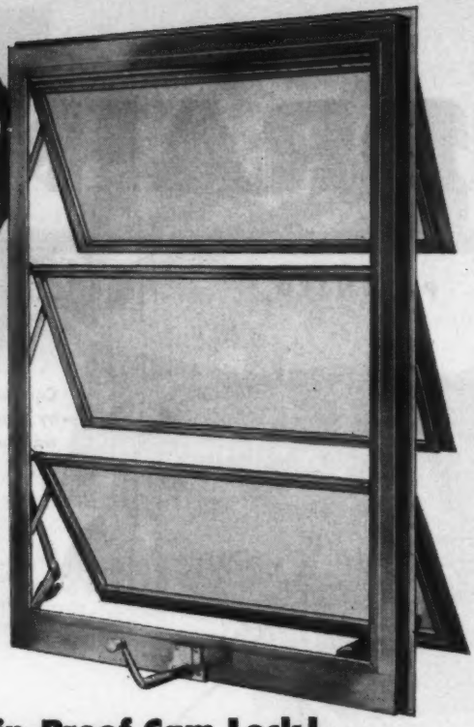
Firm ..... Business .....

By .....

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Ualco® aluminum

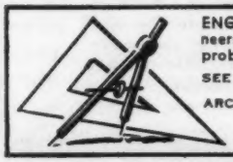


AWNING WINDOWS

★ **Exclusive Strip-Proof Cam Lock!**
Unlocks, Opens, Locks in 1 Operation!

Ualco Aluminum Awning Windows in the buildings you design mean trouble-free operation all the way! Ualco's exclusive strip-proof cam lock operator transmits power through torsion bar which rotates in 4 pillow blocks with oilite bearings . . . effects smooth, uniform operation of nylon-roller-operated linkage . . . gives you a window where turning of operator handle automatically unlocks, opens and locks vents in any position up to 90 degrees! No external locking device—Ualco does it all in one operation!

PLUS: **Heavier extruded sections meet all requirements! Completely weatherstripped with Koroseal. Integral fin takes brick fin and fin trim. Jiffy Quick Sill Clips slip in channel from either side.**



ENGINEERING PLANNING SERVICE: to assist architects, engineers and contractors in making "take-offs" and solving window problems.

SEE OUR CATALOG IN SWEET'S FOR COMPLETE INFORMATION

ARCHITECTURAL FILE 16A/U OR LIGHT CONSTRUCTION FILE 5A/UN

SOUTHERN SASH SALES & SUPPLY CO. - SHEFFIELD, ALABAMA



Ualco® U-AL-CO

SALES OFFICES & WAREHOUSES: Canton, Ohio; Elizabeth N. J.; Florence, Ala.; Hialeah, Fla.; Montgomery, Ala.; Van Nuys, Calif.; Greensboro, N. C.; Aurora, Ill.; Ruston, La.; Kansas City, Mo.; Washington, D. C.

UALCO · WORLD'S LARGEST MANUFACTURER OF ALUMINUM WINDOWS

AE

(*Continued from page 216*)

HEATING

moving a lever arm to allow the full oil flow. Oil can be controlled manually or thermostatically between high and low flow settings. The fan switch lever shuts off and turns on the fan in response to the oil flow setting.

A thermodynamic steam trap depends on the kinetic energy of steam to close the valve and thus eliminate the usual valve mechanism and parts. The only moving part is a solid, heat-treated, stainless steel disc valve head. The trap closes tight on no load and operates against a back pressure up to 50 per cent of its inlet pressures. It discharges condensate at saturated steam temperature as rapidly as it forms. While the starting load capacity of the trap is high, it works equally well on light loads. Metals and design permit the trap to withstand superheat, water hammer, vibration and corrosive condensate.

A thermostat for electric heating utilizes a hydraulic action element. The unit features a cup and a diaphragm directly exposed to the air and to the radiant effects of panel heat. A desired balance is maintained between air and surface temperature, allowing one to drop as the other increases. The average differential between on and off cycles is about 5 F.

Motor-operated dampers have been designed to respond to thermostatic temperature control. When the thermostat in any zone calls for heat, the respective motor opens the damper of that zone and at the same time closes the built-in switch which starts the heating equipment. Any number of controls may be used to govern as many zones. The low voltage control circuit eliminates the need for transformers.

For schools, there is a heating control system which gives teachers control over temperature in their own rooms and at the same time permits the principal to maintain push-button supervision over conditions in all classrooms without his leaving the office. This system can also double as a fire alarm. Thermostats in each classroom are wired to a master control monitoring panel installed in the principal's office or at some other convenient location. By pressing a button, he can read the temperature in any classroom at any time. It has a sensitive fire detecting element and relay which sounds an

alarm, and indicates on the master control panel the exact location of a fire anywhere in the building. This control system can be installed with most pneumatic temperature control systems.

A refrigerant leak developing in a refrigeration or air conditioning system is announced through use of a halogen sensitive leak detector. It can be used with a closed system into which halogen can be introduced as a tracer. An automatic balancing circuit compensates for changes in background air contamination. A loudspeaker gives audible indication when a leak develops.

Industrial television is being used in the boiler room these days. It is possible to pick up gage readings by a special camera and to have the reading transmitted to a picture tube mounted in some convenient place. A single cable transmits the image picked up by a small lightweight camera to a viewing monitor. The camera base provides special illumination for the gage.

PLUMBING

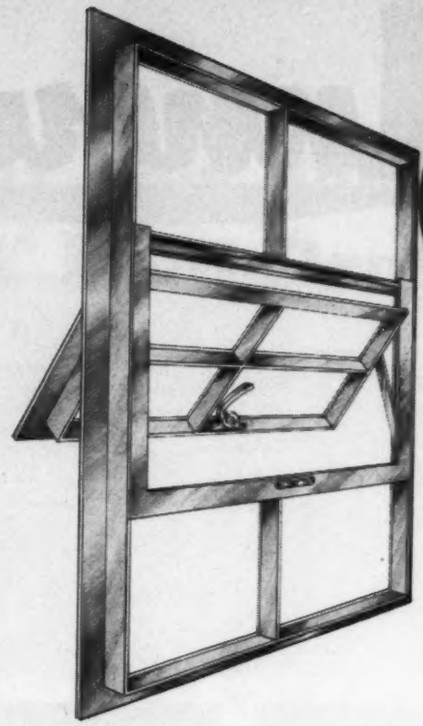
A protective coating for bath tubs and all plumbing fixtures is available which is applied with an ordinary whitewash brush. The product is a black, strippable vinyl plastic. After the coating is applied, it dries to a strong, flexible film which can be peeled off after the construction work has been completed. One gallon will cover from 4 to 5 bath tubs.

To take the place of heavy tubs, there is a laundry tub made of fiberglass reinforced plastic with steel cabinet underneath. The tub is 17½ in. wide, 23¼ in. long and 15⅜ in. deep.

For use in offices, recreation rooms, and the like, there is a self-contained water heater and lavatory. The lavatory is finished in porcelain and has a fully automatic 6 gal. electric water heater. A thermostatic control keeps the water at a fixed temperature. The recovery rate is 4 gph based on a 100 degree rise. Unit measures 18¼ in. wide, 35 in. high and 16¼ in. deep.

An all polythylene plastic sink has been designed for easy installation in any laboratory desk. It is dent-proof, breakproof, and is resistant to chemicals and acids. Sink consists of high level drain, strainer, and trap.

(*Continued on page 234*)



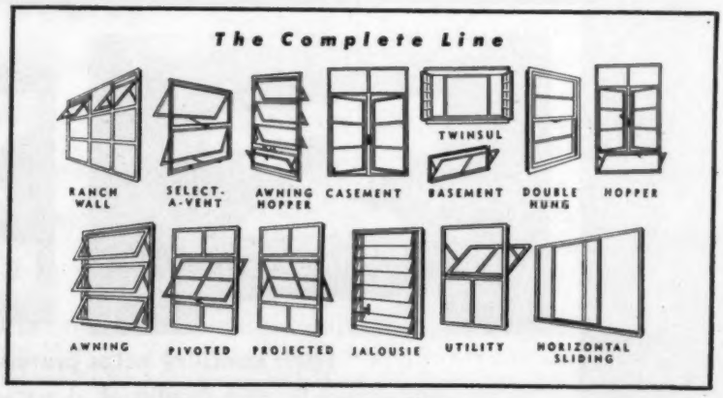
Ualco® aluminum

COMMERCIAL PROJECTED WINDOWS

★ **Heavier Extruded Aluminum Sections Meet All Architectural Requirements!**

Wherever you're planning low-cost window walls — whether in band, tier or flush-wall arrangements — you'll find Ualco Aluminum Commercial Projected Windows fill the bill. Heavier extruded aluminum sections meet all requirements for strength . . . are made to take single or double glazing. Available with either project-in or project-out vents. Lifetime aluminum meets investors' requirements, too! Will never rust, rot or warp . . . never need painting. Ualco Aluminum Projected Windows give investors their money's worth!

SOUTHERN SASH SALES & SUPPLY CO. - SHEFFIELD, ALABAMA

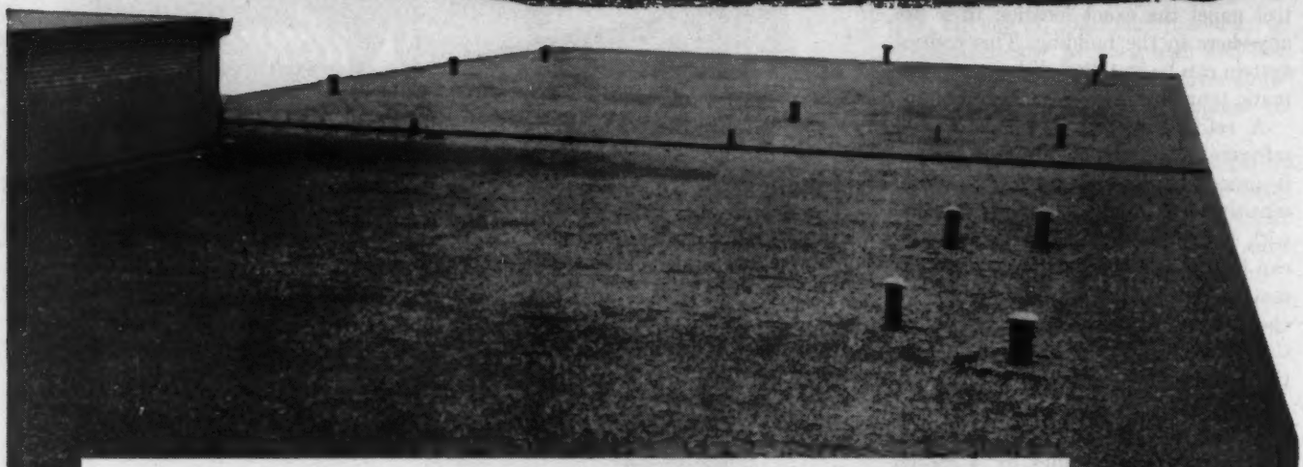


Ualco® U-AL-CO

UALCO ALUMINUM WINDOWS ARE UNCONDITIONALLY GUARANTEED AGAINST DEFECTIVE MATERIALS AND WORKMANSHIP

UALCO - WORLD'S LARGEST MANUFACTURER OF ALUMINUM WINDOWS

Announcing

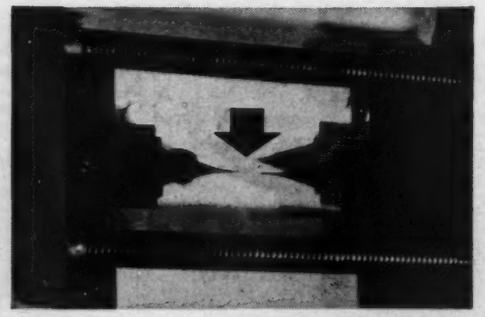


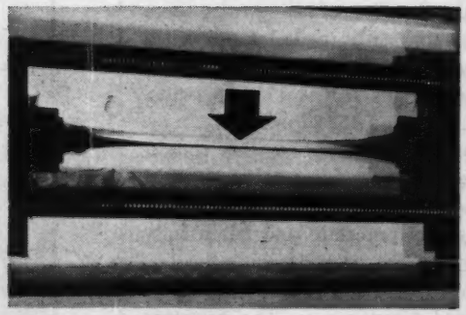




Superior weather resistance

This "accelerated" weathering test proved Aquadam to be nearly twice as resistant to excessive exposure as other bitumens. Samples of many types of bitumens were subjected to continued cycles of radiation, waterspray and refrigeration. Aquadam showed no signs of deterioration or other effects long after other samples failed.





High ductility helps prevent roof cracking

This test demonstrates the high ductility of Aquadam that permits it to withstand continual weather stress better than other bitumens. At left, a typical asphalt is shown (arrow) at average breaking point of 12cm. At right, Aquadam is shown (arrow) at a 25cm stretch—100% beyond the average breaking point—and will not break when stretched to 110cm.

SOME OF THE TESTS THAT PROVE THE SUPERIORITY OF J-M AQUADAM BUILT-UP ROOFS!

an important new development in dead level* Roof Protection...

Johns-Manville

Aquadam

(SLAG-SURFACED)

Built-Up Roofs

***for deck inclines from dead level to ½" per foot**

The new Johns-Manville Aquadam Built-Up Roof for dead level or low pitched decks has been specifically designed to give the best possible protection to a building and its contents.

J-M Aquadam Built-Up Roofs owe their proven superiority to Aquadam—the newly developed bituminous asphalt cementing agent employed in the application of the roofing felts.

J-M Aquadam offers these important advantages to provide longer roof life at no extra cost:

- **Greater weather resistance**
- **Greater resistance to cracking**
- **Improved self-healing properties**
- **Greater kettle stability**
- **Greater adhesion—stronger bond**
- **Greater resistance to water**
- **Excellent uniformity**

J-M Aquadam is produced to the most exacting specifications in the built-up roofing field. Its rigidly controlled properties assure high product quality and result in better application of the finished roof. When applied, the excellent adhesive properties of Aquadam permit a firm permanent bond to the felts and to either gravel or slag surfacing. Its excellent flow properties assure easier mopping and thorough coverage.

For complete information about Aquadam Built-Up Roofs, see your Approved Johns-Manville Contractor. He's listed in the classified section of the telephone directory. Or write Johns-Manville, Box 158, New York 16, N. Y. In Canada write 565 Lakeshore Rd. East, Port Credit, Ont.

JOHNS-MANVILLE JM PRODUCTS

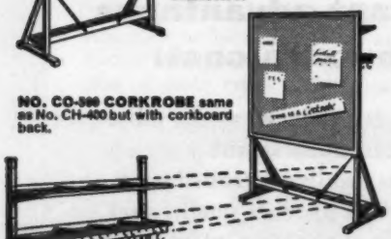
Johns-Manville



A flexible system of multi-purpose movable steel wardrobe racks with either a chalkboard (blackboard) or corkboard (bulletin board for pictures, maps, etc.) back. These sturdy, welded furniture steel units provide: (1) Means for holding Sunday School wraps in an efficient and orderly manner; (2) chalkboards or corkboards to aid class instruction; (3) movable room dividers for quickly converting a fellowship room into many small class rooms.



NO. CH-400 CHALKROBE 4'2" long, 25" deep, 6'½" high on glides (or 6'4" high on casters). Hat shelves and hanger bars are adjustable for height—accommodate every age group—(Hold 16 with coat hangers or 24 with coat hooks.) Off-floor shelf for overshoes and 50" x 48" chalkboard.



NO. CO-500 CORKROBE same as No. CH-400 but with corkboard back.

WALLMOUNT WARDROBE RACKS— Mount permanently on any wall. Shelves adjustable for height in 2" steps (accommodate any age group). Hold 4 spaced coat hangers or 6 coat hooks per running foot. Units interlock to make continuous rack of any length.
No. AW-3 Wallmount Coat and Hat Rack 3'2" long
No. AW-4 Wallmount Coat and Hat Rack 4'2" long



WALLMOUNT OVERSHOE RACKS— Mount on wall at floor level . . . extend 11½" out from wall. Interlock to make rack of any length.
No. S-3 Wallmount Overshoe Rack 3'2" long
No. S-4 Wallmount Overshoe Rack 4'2" long



Checker This 5 ft. double faced rack holds 50 coats and hats. Goes wherever needed—on large casters.

* Vogel-Peterson Trade Mark

Checkerette Ideal rack for choir robes or sacristy. Knocks down and stores like a folding chair.

Write for Bulletin SL-52

VOGEL-PETERSON CO.
1127 West 37th Street • Chicago 9, Illinois

AE

(*Continued from page 231*)

HEATING

A new type of chair carrier for installation of wall type lavatories, sinks and sterilizers, has a wedge locking type foot so that it can be used where space is limited. The new type unit requires only 3¾ by 4⅝ in. space and is built of heavy cast iron with a protective finish.

A tankless electric flushing toilet has a built-in water seal trap and employs a cartridge electric grinder so that with this unit it is possible to use a 2-in. pipe drain. The grinder eliminates a flush tank and is replaceable.

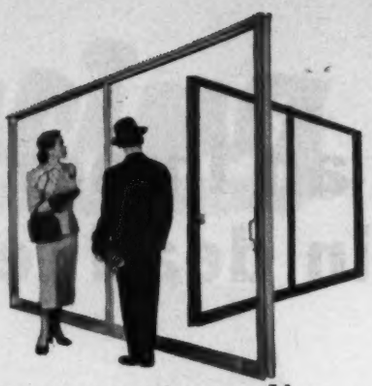
An interceptor waste trap prevents waste stoppage in the drainage system and intercepts objects that drop into the waste line. The trap is made in all standard sizes. Agitation and pump action start immediately with any flow of water. Waste particles are carried into the trap where they are diverted to a side channel and are broken up or dissolved. Solid objects are easily removed.

A submersible cellar drainer for draining boiler rooms and pits can be fully under water without damage to the unit. The motor is sealed by a stainless steel motor case. This motor starts when the water level causes the motor case to rise. Pipe connections are 1¼-in. and the pump is bronze with hard rubber semi-open impeller. Capacity range is from 1200 gph against a 22-ft head to 3000 gph against a 5-ft head.

For radiant heating installations, there is an electrically operated pipe bender for making bends in ½-, ¾- and 1-in. iron pipe, without heating the pipe. Bends can be made for 9 to 18-in. centers, at 180 degrees. After the pipe has been bent the machine is reversed to relieve pressure on the pipe so that it can be removed. The device has a 1 hp motor and can bend both copper and steel pipe. The bend is completed in 25 seconds.

A packaged pneumatic sewer ejector for low flows is designed for small buildings and sub-division lift stations. It is suitable for small apartment buildings and small schools, and for capacities to 20 gpm with a 20-ft head. It can be used with either a 3- or 4-in. inlet and discharge fitting. It has a hermetically sealed pot to elminate odor and gas. All solids that enter the pot will be passed by the ejector.

(*Continued on page 238*)



NOW... *get arcadia*
quality features
in aluminum, too!

Here is a partial list of quality features that make Arcadia's new custom aluminum door the strongest, most weathertight sliding aluminum door ever made . . .

GENERAL—All members are Type 6063-T5 aluminum alloy extrusions, average wall thickness .094" • Lustrous, clear Alumilite finish • Designed for either single or double glazing with standard ¼" plate or 1" insulating glass • Glass Mould snaps on and off for fast and easy glazing • Beveled Mould for ¼" plate prevents collection of dust and dirt • Hollow, box-type Sections provide extra strength and rigidity • Weathersealed on all four sides with Double-Seal Wool Pile Weatherstripping, Silicoated to protect against moisture, abrasion and staining • All weatherstripping replaceable without dismantling door • All installation and assembly screws are stainless steel or Alumilited aluminum • Variety of materials available for decorator-type Door Pulls • Available in a variety of widths under Arcadia's exclusive "MULTI-WIDTH" Program.

FRAME ASSEMBLY—Heavy-gauge stainless steel Track, easily replaced if damaged • Replaceable Threshold • Box-type Head and Fixed Interlocker • Bottom line of Head is continuous • Plaster Key in Jambs • Need for blocking eliminated • Snap-in Flashing Fins for simplified installation.

SLIDING PANEL—Box-type Stile and Sliding Interlocker • Sliding Panel easily removable without dismantling Door.

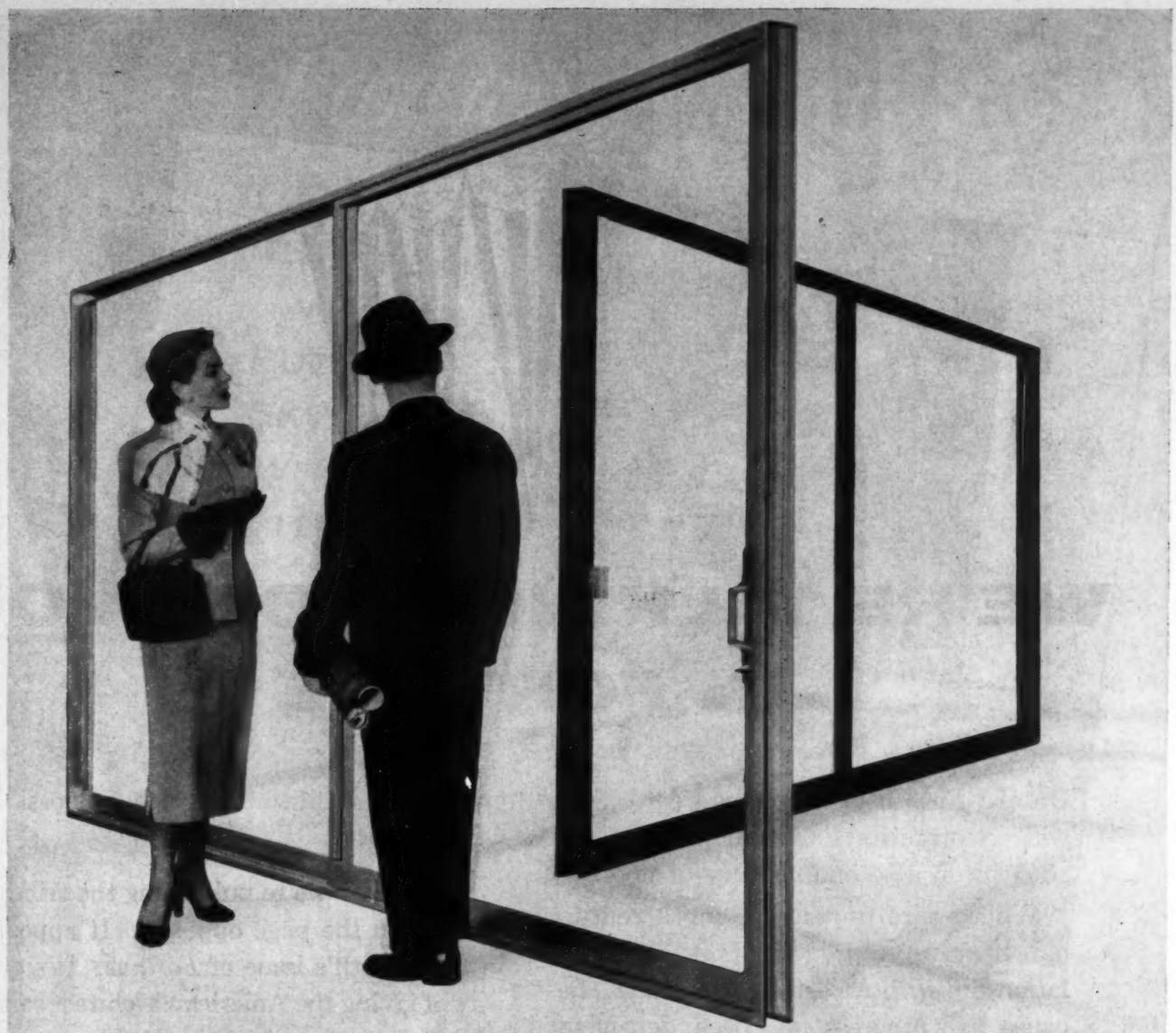
HARDWARE & FITTINGS—Positive Night Latch • Non-corrosive, cad-plated Lock Mechanism • Schlage cylinder lock available • Smooth-rolling, large diameter Nylon Sheave, adjustable and replaceable without dismantling door.

For complete information and detailed specifications, write for literature on Arcadia's new aluminum door. Ask for Catalog A-55.

HELP BUILD A BETTER AMERICA —SEE AN ARCHITECT

arcadia ®
sliding glass doors
Arcadia Metal Products • Arcadia, California

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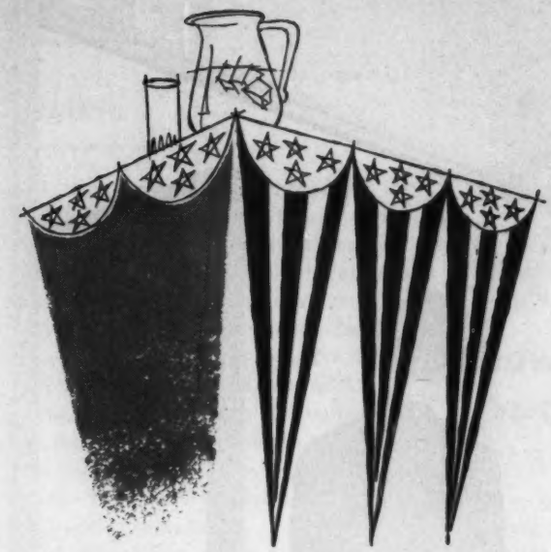
NOW... *get arcadia quality in* **aluminum** *too!*

Today, after nearly six years of patient planning and exhaustive research, Arcadia proudly announces a magnificent new line of custom sliding doors of *aluminum*... designed and engineered to meet or surpass all commercial and residential needs!
Here, at last, is an aluminum door worthy of the name *Arcadia*... long the leader in *steel* sliding glass doors.
Before you specify *any* door, see the all-new Arcadia aluminum door. Compare it with all others... you'll see the difference. Then decide for yourself.

arcadia *sliding glass doors*

first choice in steel... **NOW** *first in aluminum, too!*

ARCADIA METAL PRODUCTS • ARCADIA, CALIFORNIA • NATIONAL MEMBER PRODUCERS' COUNCIL, INC. and NATIONAL ASSOCIATION of HOME BUILDERS



WE'RE TALKING ABOUT YOU IN FORTUNE

On the Fourth of July this year, Crane will celebrate its 100th Birthday . . . and start in on a second century of progress.

While we're proud of being a century old—we're even prouder of our cordial relationship with America's Architects. Because *our* progress has been dependent upon theirs.

In modern America, most people take the buildings they live in and work in for granted. The new skyline is admired—but the man who put it there may be overlooked. Architecture is a modest profession—architects don't shout their accomplishments from the housetops. Yet our modern civilization would not have been possible without them.

That's why we're publishing the tribute you see on the page opposite. It appears in this month's issue of *Fortune*. It's our way of giving the American architect some of the respect we think is due him.

Would you like to have a reprint of the *Fortune* ad, suitable for framing? Send your request to our main offices in Chicago. No charge, of course.

CRANE

Fortune

THE MAN WHO PUT THE SKYLINE WHERE IT IS



Any time you need a good example of the American success story, take a look at the skyline.

Because the things you see there are a visible graph of America's growth. The clean, fresh lines of America's new skyscrapers, factories, churches, hospitals, schools and homes are better symbols of our way of life than anything a political speech writer has been able to dream up yet.

The man responsible for this is the architect.

In the past hundred years, he has made American architecture more than a matter of shelter . . . more than a copy of past grandeur. He has developed designs and techniques that make it as distinctly American as a baseball park.

But this progress hasn't been easy. The architect has had to produce an art that reflected not only himself, but the rest of us, too. He has had to satisfy not only the critics of art, but practical clients as well.

That the architect has done his job (witness that skyline!) is a tribute not only to his artistry, but to his business judgment. Through the efforts of the American Institute of Architects the standards of the profession have been maintained.

So, if you want to keep an eye on progress, keep an eye on the skyline . . . and the architects who are putting it there.

CRANE CO.

836 SOUTH MICHIGAN AVENUE, CHICAGO 5, ILLINOIS

VALVES • FITTINGS • PIPE • KITCHENS • PLUMBING • HEATING

CRANE STARTS ITS SECOND CENTURY OF QUALITY—Founded July 4, 1855

Published as a tribute to our friends in the architectural profession on the occasion of Crane's Hundredth Anniversary. Crane is proud of the part American architects have assigned to it in building America's

CRANE CO.
General Offices: 836 S. Michigan Ave., Chicago 5, Ill.
VALVES • FITTINGS • PIPE • KITCHENS • PLUMBING • HEATING

CRANE STARTS
ITS SECOND CENTURY
OF QUALITY
Founded July 4, 1855

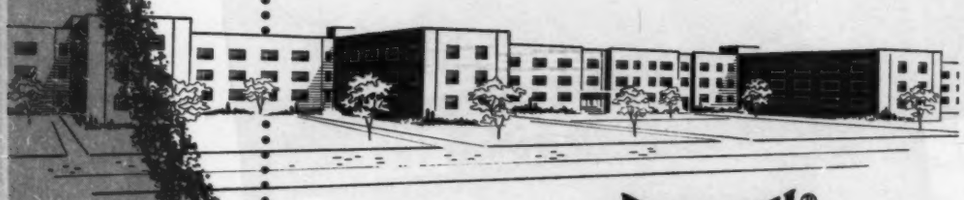
The right type lock line for every type of service

FLARE DESIGN
in Cast Brass, Bronze, or Aluminum
COSMIC DESIGN
in Wrought Brass, Bronze, or Aluminum

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for the
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Elmira, New York
Haskell, Considine & Haskell Architects

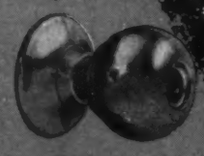


RUSSWIN®
"Stilemaker"
HEAVY-DUTY LOCKS AND LATCHES

Construction features such as a seamless tubular knob shank; self-lubricating latch bolt; provision for full size master ring cylinder to mention a few . . . account for the selection of "Stilemaker" Locks and Latches as standard hardware on more and more new construction.

This heavy-duty cylindrical type lock line is offered in four basic lock designs, twenty-six functions, and all popular finishes. Several decorative escutcheons also available. The line is approved by the Fire Underwriters' Laboratory of Chicago and meets Class B, C, D, and E Doors, also meets Federal Specifications. Russell & Erwin Division, The American Hardware Corporation, New Britain, Conn.

BRISTOL DESIGN
in Cast Brass, Bronze, or Aluminum
HADDAM DESIGN
in Wrought Brass, Bronze, or Aluminum



BRUNSWICK DESIGN
in Cast Brass or Bronze



KENO DESIGN
in Cast Brass, Bronze, or Aluminum



AE

(*Continued from page 234*)

HEATING

A heavy duty drain is designed for installation on flat roofs. It is for use where free ample drainage area is required for quick storm drainage and where a deep sump is necessary to hold excess water before it enters the leaders. It is possible to raise or lower the roof flange of drain.

A machine has been developed which drills holes up to 6-in. diameter in concrete floors for running service lines. All drills are up to 18 in. deep and the three models available are for holes ½ to 3 in.; ½ to 4 in.; ½ to 6 in.

Savings in the use of water is possible with an automatic shower valve which works on a piston principle. Average water per shower is from 10 to 15 gal. It uses the pressure of the water to open and then close the valve. The user pushes a button to operate and this permits the water to flow for about 1 minute before it stops. Continuous flow can be maintined by again pushing the button before the cycle ends. This valve will operate satisfactorily on a ⅜ in. supply line.



Symmons Engr. Co.

Shower valve automatically allows water to flow for about 1 minute

For industrial buildings, there is a roof ventilation unit and fire valve which opens quickly when there is excess heat in the building from fire. Each unit provides 46 sq ft of free area opening when two large damper drops are released by a fusible link. Dampers can also be opened and closed by a loop chain when one desires to use the unit for extra ventilation in good weather. Any number of these roof units may be installed to meet recommendations of fire and insurance authorities.

A delayed opening valve, complete in itself, is available as an accessory to be installed on the nozzle line of an oil

burner installation. It delays the delivery of oil to a nozzle from 6 to 8 seconds on cold starts, thus allowing the motor to come to full speed. This establishes full draft and assures complete atomization, and the proper air for combustion. On shutdown the control provides instantaneous cut-off of the flame while the draft fan is operating at full speed. Sooting of flue passages and nozzle are greatly reduced, and rumbles and puff-backs eliminated.



Majestic Co.

Automatic, gas-fired incinerator rings bell at end of burning time

INCINERATORS

While incinerators have been common in large apartment houses, use has now spread to the 1-family residence, and improvements have been made in the larger units.

An automatic, gas-fired, indoor incinerator is designed for use with wet and dry garbage. When the unit is full, a burner control is set and no other attention is required. A vent pipe taps into the furnace flue without affecting furnace efficiency. At the end of a preset burning time, a bell rings to announce that the burner time has been completed and that the gas, other than for the pilot flame, can be turned off.

For commercial use, such as in restaurants and stores, there is a 2-burner, gas-fired incinerator with a capacity of 4 bushels. It has a ¼-in. steel plate combustion chamber. Burners are of the ribbon type and have manual push button lighters and baso-thermocouple valves for safety. They burn gas at the rate of 50,000 Btu per hr.

Finishing Hardware for every building need

Selected*

for
Holy Cross
Lutheran Church
Wichita, Kansas

Architects . . . Ramey and Himes



RUSSWIN®

Fire Exit Bolts

Complete confidence in the dependability and simplicity of the exclusive rotary action is the most frequently mentioned reason for selecting Russwin Exit Bolts. This knob-like action relieves the locking mechanism of strain and insures operation under severest conditions. It involves only three moving parts. Other features of Russwin Exit Bolts include drop forged arm levers, Oilite bearings and foolproof dogging.

Russwin Exit Devices are made in rim and mortise types, with swing type top and bottom latch bolts for single and double doors. Russell & Erwin Division, The American Hardware Corporation, New Britain, Conn.

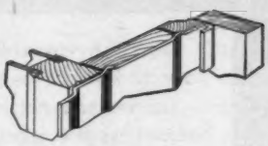




Pella®

WOOD CASEMENT WINDOWS

the warm, friendly wood casement . . . with a backbone of steel



PELLA WOOD CASEMENT WINDOWS combine the beauty and insulating qualities of wood with the strength of steel. For a 16-gauge steel frame reinforces the sturdy wood lining to provide maximum rigidity. This steel frame extends the full width of the 5¼" jamb and is continuous around all four sides of the windows. The hinge butt plate is anchored to the solid steel frame. That's why PELLA CASEMENTS always hang true and can be furnished with glass sizes up to 24" x 60"— the largest wood casement sash on the market.

The wide range of PELLA stock sizes in modular widths, used singly or in combination, makes it possible to create perfect window arrangement for every design concept. Glass sizes are 16", 20" and 24" in width and range up to 60" in height. Furnished with both horizontal and vertical muntins, with horizontal muntins only, or without muntins.

PELLA CASEMENTS fit snugly in all types of wall construction. They are completely assembled with hardware fitted at the factory.
A quality window competitively priced. Investigate today. See our catalog in Sweet's or mail the coupon today for free literature. Distributors are located in major cities of U. S. and Canada.



ROLSCREENS—All Pella Casements are equipped with inconspicuous Pella Rolscreens—that roll up and down like a window shade. Need no putting up, taking down, repairing or storage.



DUAL GLAZING—The year-'round Pella self-storing storm window protects against winter cold and summer heat. Reduces street noises up to 40%. Glass sets in a neat aluminum frame, vinyl-lined to keep out dust.

Pella®

WOOD CASEMENT WINDOWS

CLIP AND MAIL TODAY

ROLSCREEN COMPANY, Dept. 6-6
PELLA, IOWA

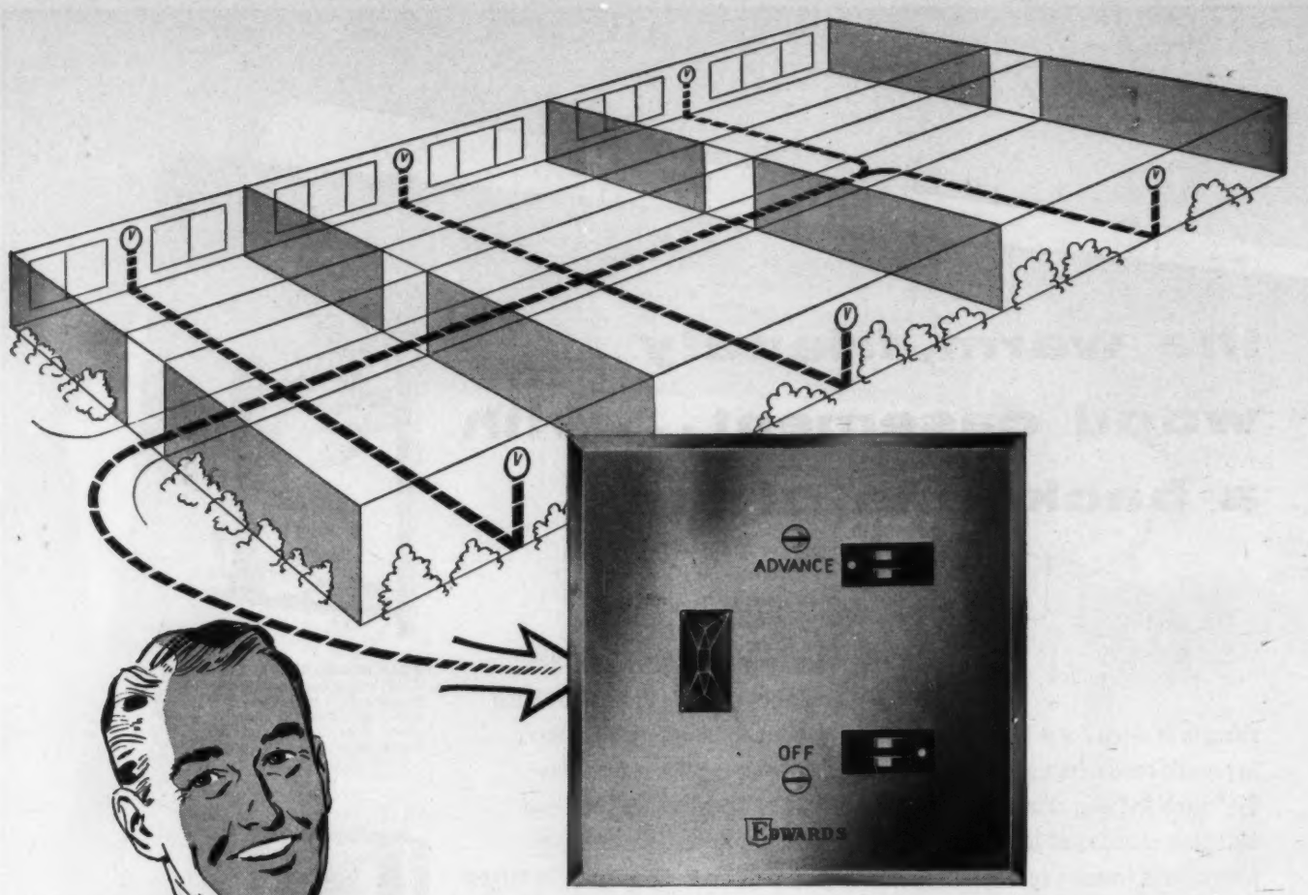
Gentlemen: Please send free literature on PELLA CASEMENT WINDOWS, with name of nearest PELLA distributor.

FIRM NAME _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

ATTENTION MR. _____



it's so simple . . .

The Edwards Synchromatic Clock System is the simplest centrally controlled clock system on the market. And thanks to that simplicity is priced well below what you'd probably expect it to cost.

Here's how it works. A light on the panel shown above glows when power resumes after a failure. One switch sets clocks ahead . . . the other sets them back. No master clock needed, no mercury pendulums, rectifiers, condensers or radio tubes. Virtually error free, the Edwards Clock control system runs for years without attention. Write for Bulletin "CL".

Edwards Co. Inc., Dept. AR-6, Norwalk, Conn.

In Canada: Owen Sound, Ontario.

EDWARDS ***Synchromatic Clock Systems***

for SCHOOLS • HOSPITALS • OFFICES • INDUSTRY!



Specify Edwards and Be Sure

America's schools run more smoothly . . . America's school children are better protected thanks to Edwards.



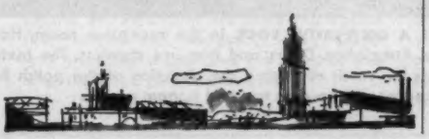
Edwards Automatic Clock and Program Control Systems, models of precision engineering, regulate school traffic with split-second accuracy. This ingenious system requires no master clock, no mercury pendulums, rectifiers, condensers or radio tubes. Built around the famous dual-motored Telechron movement, Edwards Clocks are synchronized to ever accurate incoming alternating current...one or a hundred timepieces keep perfect time together. Virtually error-free, they run for years without costly servicing.



TRIM, MODERN, EFFICIENT:

Edwards Fire Alarm Systems are chosen by leading architects to protect America's schools, hospitals and important buildings. Write for Bulletin on Fire Alarm Systems.

EDWARDS
protects..everywhere!



AE ROUNDUP

(Continued from page 218)

CODES—Plumbing, Water Heating

• A uniform code for plumbing has been approved, after more than 20 years of development, to modernize existing practices and to coordinate the work of plumbing equipment manufacturers, architects, contractors, municipal lawmakers, building officials and others.

The American Society of Mechanical Engineers, with the co-sponsorship of the American Public Health Association, provided the administrative leadership in obtaining approval of the code as the American Standard National Plumbing Code. The American Standards Association stresses the fact that the code is not mandatory. It is "national" in the sense that it is distinguished from the multiplicity of different codes which have only local recognition and acceptance and that it is supported by a national consensus. It is intended for those municipalities which need it as a basis for setting local standards that are uniform with those used elsewhere in the nation.

The American National Plumbing Code, 186 pp, is available at $3.50 per copy from the American Society of Mechanical Engineers, 29 West 39th St., New York 18, N. Y., or from the American Standards Assoc., 70 East 45th St., New York 17, N. Y.

• The first codes for determining the outputs of indirect water heaters are being issued by the Institute of Boiler and Radiator Manufacturers. Ratings based on tests carried out under either of the two new codes will be know as I-W-H ratings.

The first of the two codes, dated March 1, 1955, provides for I-W-H ratings for indirect water heaters of the external or internal tankless types, used in combination with specific boilers. The second code is intended for indirect water heater manufacturers producing units of the external type, storage or tankless.

The codes are available from the Institute of Boiler and Radiator Manufacturers, 608 Fifth Ave., New York, N. Y.

. . . . . .

• **Improved wiring provisions** in new housing which qualifies for FHA-insured mortgages will be formulated by an electrical industry body named by the FHA and electrical industry representatives.

(Continued on page 246)

The Ideal EDGE PULL—
for any sliding door



#44—3⅞" x ¾" x 1⅛".
All popular finishes.

Simple, easy, "flip of the finger" operation — with an unfailing *spring return* — Adams-Rite Edge Pull No. 44 will fit the narrowest door, yet it is rugged enough to withstand the heaviest use. Made from *solid brass* to template it is a functionally beautiful Edge Pull for every kind of sliding door.

a r

For Complete Information Write to

ADAMS-RITE
MANUFACTURING CO.
540 West Chevy Chase Drive
Glendale 4, Calif.



BRIGHT STAINLESS STEEL AND GLASS help to keep the feeling of open space without actually wasting any. Stainless Steel revolving door can take banging of customers' feet. Perspiration from thousands of hands cannot affect it. Note the stainless steel sheathed supporting column beyond the door.



FEELING OF SPACIOUSNESS is achieved by good use of stainless steel and glass at the vault entrance. High strength-to-weight ratio of Enduro Stainless Steel permits architects to use it in thinner sections, eliminating unnecessary bulk which would mar decorative effects, and cut down on glass areas.



THIS CIRCULAR STAIRWAY leads from the banking floor to the vault room in the first basement floor. Stainless Steel handrails curve on changing radii to accent graceful curve of stair. Guard rail at top consists of stainless frames with glass screens to preserve appearance of openness and space.

How to give a

...give it beauty that's modern

...beauty that's easy to maintain

...give it

ENDURO STAINLESS STEEL

REPUBLIC STEEL CORPORATION
3110 East 45th Street,
Cleveland 27, Ohio

REPUBLIC STEEL ®

Please send me more information on:

- ☐ Berger Roof Drainage Products
- ☐ ELECTRUNITE® E.M.T.
- ☐ Enduro® Stainless Steel
- ☐ Truscon Steel Windows

Name_____ Title_____

Company_____

Address_____

City_____ Zone____ State_____

K-8080



STAINLESS STEEL BECOMES A DECORATIVE TOOL in the reception room, Home Federal Savings and Loan Association. Doors and trim are stainless. The texture effect on the door panels is the result of turning the direction of the polish lines on the middle panels 90 degrees to those on top and bottom panels.



HERE'S A NEW IDEA: combine the mailbox and building directory. Then make both of them out of Republic Enduro Stainless Steel and you have improved design in a limited lobby space. Easy to maintain, too.



AFTER BANKING HOURS, this "snorkel" permits the teller, safely seated in the basement vault room, to receive payments or deposits from customers outside of the bank. Stainless Steel is used for the work surface, as well as all other metal parts.



"HOLD-UP PROOF" is this after-hours banking "snorkel". This is the view from the customer side. There is an elevating device, periscope and telephone connection. All bright metal is stainless steel.

bank its money's worth

Architect William Sevic of Chicago did just that for Home Federal Savings and Loan Association of Chicago. He used it in everything from the vaults and radiator covers to the stair rails. He knew that Enduro Stainless Steel would last. That it fitted in with good functional design. And eliminated the need for constant polishing.

Although it has been with us for more than 25 years, architects are still discovering more and more uses for Republic Enduro Stainless Steel. Like hardware. Downspouts and gutters. Decorative ornaments.

And architects are finding that their clients like Enduro Stainless Steel. It's beautiful. And it will stay that way for years. When you specify it, your reputation is not only safe—it's enhanced. Get all the facts by filling out the coupon below.

REPUBLIC STEEL

World's Widest Range of Standard Steels and Steel Products



ELECTRICAL WIRING IS SAFE AND ECONOMICAL when it's in Republic "Inch-Marked®" Electrical Metallic Tubing. You get the mechanical and electrical protection inherent in a steel conduit system. Wiring circuits are protected against fire, moisture and mechanical injury. Corrosion resistance is unbroken from end to end, since there are no threads to cut.



LOTS OF LIGHT, LOTS OF AIR, LOW MAINTENANCE can be designed into buildings like this public library when you specify Truscon Steel windows. Made by Republic's Truscon Steel Division, these windows operate easily. Ventilators allow a precisely controlled flow of fresh air. Window shown is the Truscon Intermediate Projected steel window with sill vent.



GIVE YOUR CLIENT TROUBLE-FREE ROOF DRAINAGE with gutters and downspouts of Republic Enduro Stainless Steel. Fabricated by Republic's Berger Division and numerous independent manufacturers, these products will last the lifetime of the building, under normal conditions. No rusting, no tarnishing. No bleeding or discoloring paint. They are stronger than ordinary steel, withstand wide temperature changes.

AE ROUNDUP

(Continued from page 243)

BOOKS, BOOKLETS, BROCHURES

• *Plant and Process Ventilation*, by W. C. L. Hemeon, engineering director, Industrial Hygiene Foundation. The Industrial Press (New York 13, N. Y.) 448 pp, illus, $9. Principles and design data for the engineer interested in ventilation.

• *Sound Absorption Coefficients of Architectural Acoustical Materials.* Bulletin XV. The Acoustical Materials Assoc. (57 East 55th St., New York, N. Y.) 30 pp, 50¢. Furnishes the architect with information for choosing acoustical materials for specific purposes.

• *Preventing and Controlling Water-conducting Rot in Buildings*, by A. F. Verrall. Occasional Paper 133. Southern Forest Experiment Station (U. S. Dept. of Agriculture Forest Service, Gulfport, Miss.) 14 pp, illus. Important types of wood decay in buildings.

• *Design of Barrell Shell Roofs.* Portland Cement Assoc. (33 W. Grand Ave., Chicago 10, Ill.) 28 pp, illus. Covers concrete shell roofing of large unobstructed areas.

• *A Brief Description of the Design and Operation of Four Heat Pump Installations in the Tennessee Valley*, by B. H. Martin and C. L. Carter, Conference Paper. American Institute of Electrical Engineers (33 West 39th St., New York 18, N. Y.) 26 pp, illus, 60¢ to nonmembers.

• *Selecting Windows.* Circular Fll. 1. Small Homes Council (University of Illinois, Urbana, Ill.) 6 pp, illus., 10¢. Discusses basic window types from the standpoints of hardware, ventilation, view, weather-tightness, maintenance and ease in washing.

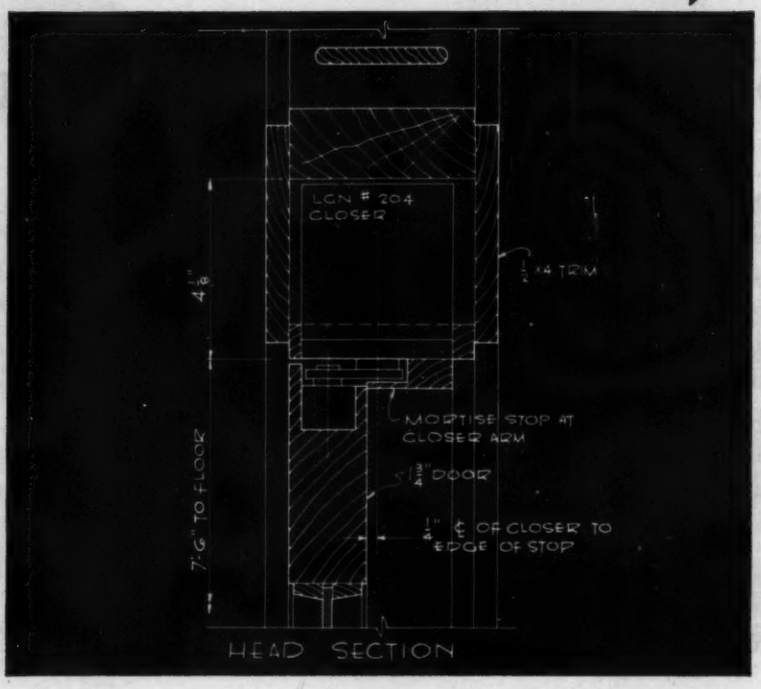
. . . . . .

• **A Recommended Specification for Vinyl Asbestos Floor Tile** has been adopted and covers such things as materials, color, size, thickness, indentation, flexibility, impact, dimensional stability, curling and resistance to solvents for both ⅛-in. tile and gauges of less than ⅛ in. Single copies of the specification may be obtained from the *Asphalt Tile Institute, 101 Park Ave., New York 17, N. Y.*

• **Interior lighting** in 85 per cent of all stores, offices, schools and factories throughout the country falls far short of recommended levels of illumination, reports a study completed recently by the National Electrical Manufacturers Association.

• **Blast effects on buildings** are being studied through the medium of a "shock tube" at the Armour Research Foundation of the Illinois Institute of Technology in Chicago. The tube, which has a 6-ft diameter, is the largest laboratory device yet developed for simulating the blasts from bombs. The testing of structures with the tube is aimed at answering two questions: What forces on a building result from the bomb explosion? How does the building react to the forces?

• **Lift-slab construction** has been studied in about 15 different building projects in California since August 1954, following the collapse at the Serra School in San Mateo on July 15. A report of its study has been issued by the California State Division of Industrial Safety.



CONSTRUCTION DETAILS

for LCN Overhead Concealed Door Closer Shown on Opposite Page

The LCN Series 200 Closer's Main Points:

1. Efficient, full rack-and-pinion, two-speed control of the door
2. Mechanism entirely concealed; arm disappears into door stop on closing
3. Hydraulic back-check prevents door's being thrown open violently to damage walls, furniture, door, hinges, etc.
4. Hold-open (optional) set at any one of following points: 85°, 90°, 100° or 110°
5. Easy to regulate without removing any part
6. Used with either wood or metal doors and frames.

Complete Catalog on Request—No Obligation or See Sweet's 1955, Sec. 17e/L

LCN CLOSERS, INC., PRINCETON, ILLINOIS



Suren Pilafian and Frank Montana, *Architects*

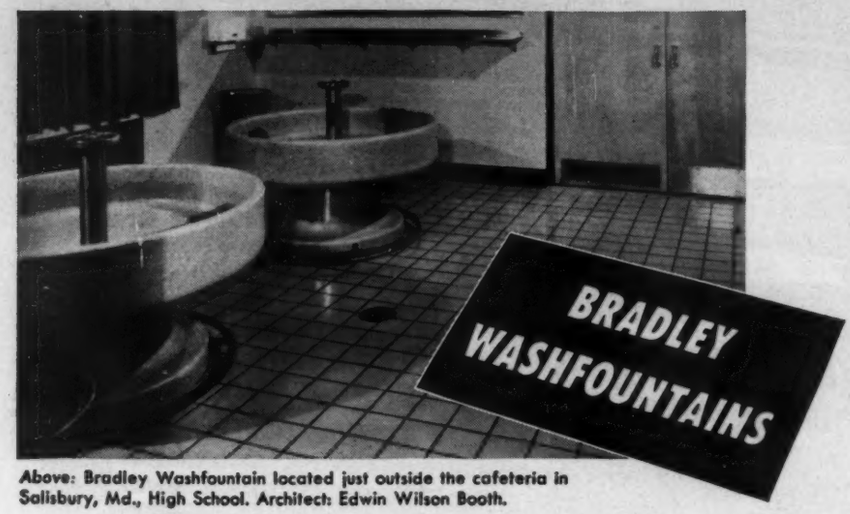
MODERN DOOR CONTROL BY *LCN* · CLOSERS CONCEALED IN HEAD FRAME

LAW LIBRARY, WAYNE UNIVERSITY, DETROIT, MICHIGAN

LCN CLOSERS, INC., PRINCETON, ILLINOIS

Construction Details on Opposite Page

MORE SCHOOLS AGREE ON SANITARY WASH FIXTURES



Above: Bradley Washfountain located just outside the cafeteria in Salisbury, Md., High School. Architect: Edwin Wilson Booth.

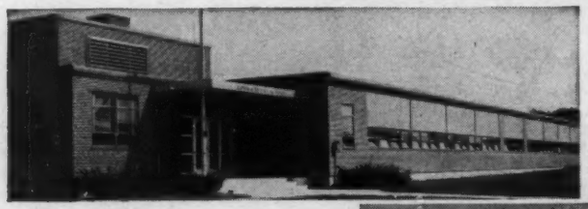


Tamper-Proof features: metal pedestal, mixing valve enclosed, soap dispenser has locking-type filler cap, tamper-proof nuts lock tie rod assembly.

Adequate and sanitary wash fixtures are important whether in schools, factories, institutions, public or commercial buildings.

Across the nation, school authorities, experienced architects and plumbing contractors, regularly include Bradley Washfountains for new and remodeled buildings. Bradleys provide for economical group washing, supplying each washer with clean running spray of water, and with foot-control to eliminate all possible contagious contacts. Installation costs, water consumption, and washing time are reduced. Our Catalog 5204 will be mailed promptly on request.

BRADLEY WASHFOUNTAIN CO.
2227 W. Michigan Street, Milwaukee 1, Wisconsin



John Greene School, Warwick, R.I. Architect: S. Wesley MacConnell

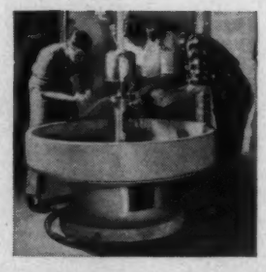
Rowland School, Cleveland Architect: Charles Bacon Rowley



Below:
Pitcher School, Detroit
Architect: George D. Mason



54-in. Bradley Washfountain serves clean running water to large groups—up to 10 simultaneously





The Duo Washfountain — for smaller washrooms, — for teachers' use, — in or near cafeterias, etc. Foot-control means no waste of water, supply is cut off when foot is removed.

Write for Catalog 5204

BRADLEY washfountains



Distributed Through Plumbing Wholesalers

A|E PRODUCTS

(Continued from page 219)

REINFORCED PLASTIC PANELS

A *translucent plastic building panel* reinforced with parallel strands of both nylon and Fiberglas is called *Filon.* Actual tests have shown that Filon in an 8 oz per sq ft panel can support a load of over 200 psf. A fully automatic process turns out panels in continuous lengths. They are produced in 20 colors, in crinkled and smooth finishes and in 6- and 8-oz weights. *Plexolite Corp., 2051 East Maple Ave., El Segundo, Calif.*

Multi-color fiber-glass plastic panels with an integrated decorative design can be used for carports, patios and room dividers. Shadowlite comes in six different designs and fourteen colors. *Shadowlite, P.O. Box 47895, Wagner Sta., Los Angeles 47, N.Y.*

TILE PANELS



Tile Panelboards in 4- by 8-ft sheets have been added to the 4- by 4-ft Panelboard line. The sheets, with a baked-on plastic finish, have 4¼- by 4¼-in. tile-sized blocks and a ½ score, ½ stripe butt joint feature. *Panelboard Mfg. Co., Inc., 111 Cedar Lane, Englewood, N. J.*

SOUND-CONDITIONING PANELS



Two new *sound-conditioning panels* are a white enameled steel panel and translucent plastic panels. Sound passes through small perforations in the surface of Steelacoustic (right) into an absorbent material. Acousti-Lux consists of a pair of Lumicel plastic ceiling panels which are welded together at their perimeters and absorb sound by the diaphragmatic action of the enclosed air. A variety of designs is available (left). *The Celotex Corp., 120 So. Lasalle St., Chicago 3, Ill.*

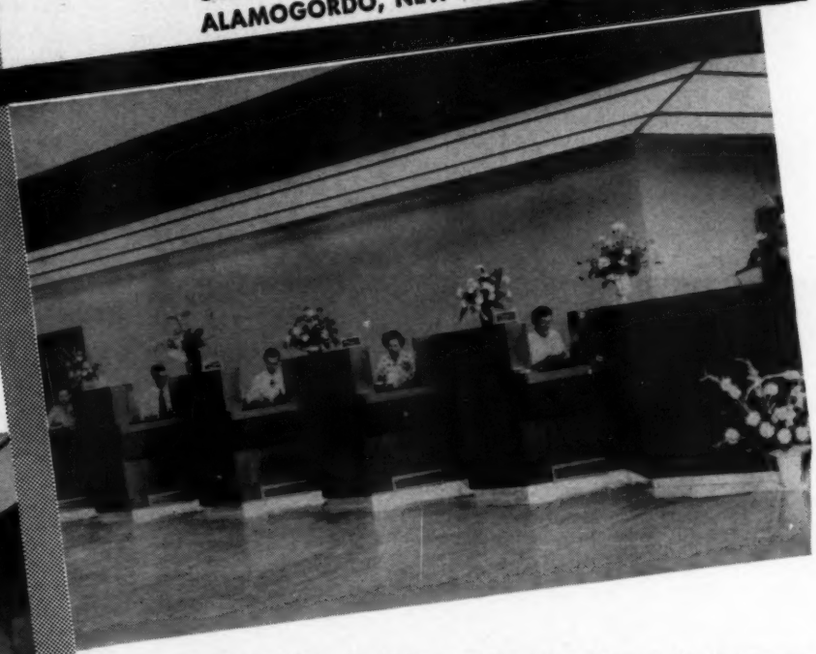
(Continued on page 254)

BANKS get Extra Dividends

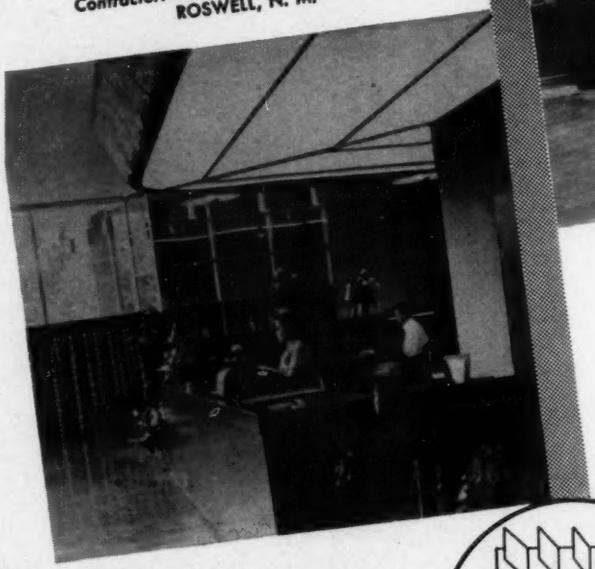
with

NEO-RAY
LOUVRED CEILINGS
for CORRECT LIGHTING

OTERO COUNTY STATE BANK
ALAMOGORDO, NEW MEXICO



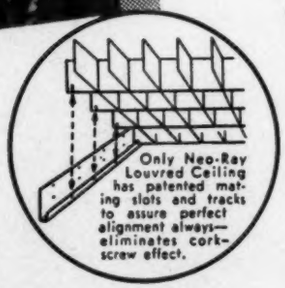
Architect: KERN SMITH, CARLSBAD, N. M.
Contractor: SUMNER & MOLESWORTH, ROSWELL, N. M.



Extra dividends of beauty and functional design were achieved at the Otero County State Bank. The problem of getting an even distribution of light over the tellers cages was quickly solved with the NEO-RAY ML 2448 Louvred Ceiling.

It's the *only* Louvred Ceiling that offers all these patented and exclusive features: mating slots and tracks that assure perfect alignment . . . stock sections that can be cut on the job to meet any requirements . . . simple labor saving design for low cost installation.

Next time you specify — bank on NEO-RAY LOUVRED CEILINGS for those extra dividends.



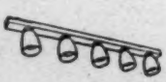
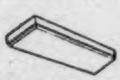
SPECIAL LOUVRE DESIGNS?

Let the "know-how" of our engineering department assist you. No obligation, of course.

Send for NEW LOUVRED CEILING catalog No. 544

See our catalog in Sweet's Architectural File sec. 30a/NE

MANUFACTURERS OF LIGHTING FIXTURES INCLUDING:


Louvred Ceilings • Roto-Strip • Luminette • Kleen-VU KVT Troffers

NEO-RAY PRODUCTS, Inc.
315 East 22nd St. • New York 10, N. Y.

Build your bathrooms around BRIGGS BEAUTYWARE... IN COLOR

Coordinated color interiors give homes personality and prestige, according to Howard Ketcham, America's best known color adviser to many home building firms. Today, there's no doubt about the importance of colorful bathrooms and kitchens. They're as much a showplace as any room in the house.

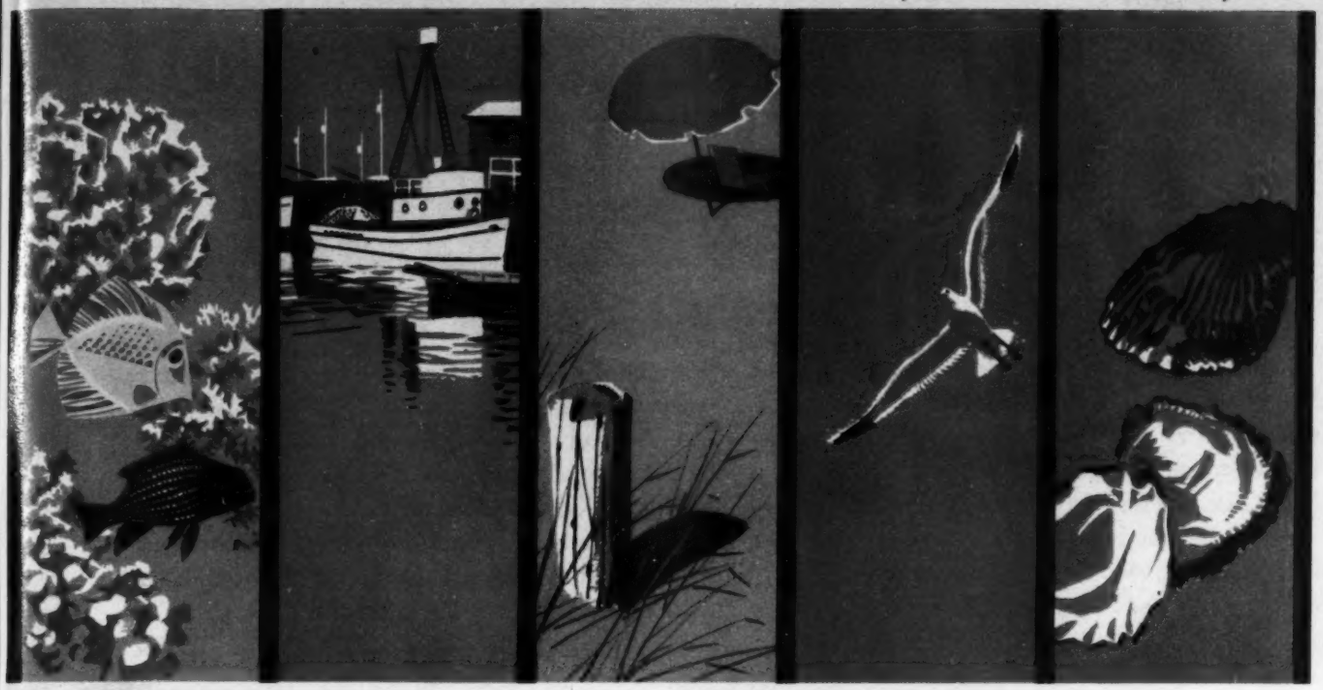
Your prospects are not only color conscious, but fast becoming color educated. That's why the soft pastel tones of Briggs Beautyware are so pleasing, so versatile and so popular.

When you tell your prospects that colorful Briggs Beautyware is fadeproof, easy to keep clean, and blends with any number of bathroom accessory and decorating changes, you can't help but generate a strong desire for ownership.

We invite you to shop for color fixtures—compare materials, design and workmanship—compare bathing features, utility features, finishes and beauty of appearance. And compare color match, color shade and color brilliance. You, too, will agree—Briggs Beautyware is the outstanding color value and a great contribution to home sales features.



Coral • Sea Green • Sandstone • Sky Blue • Pearl Gray



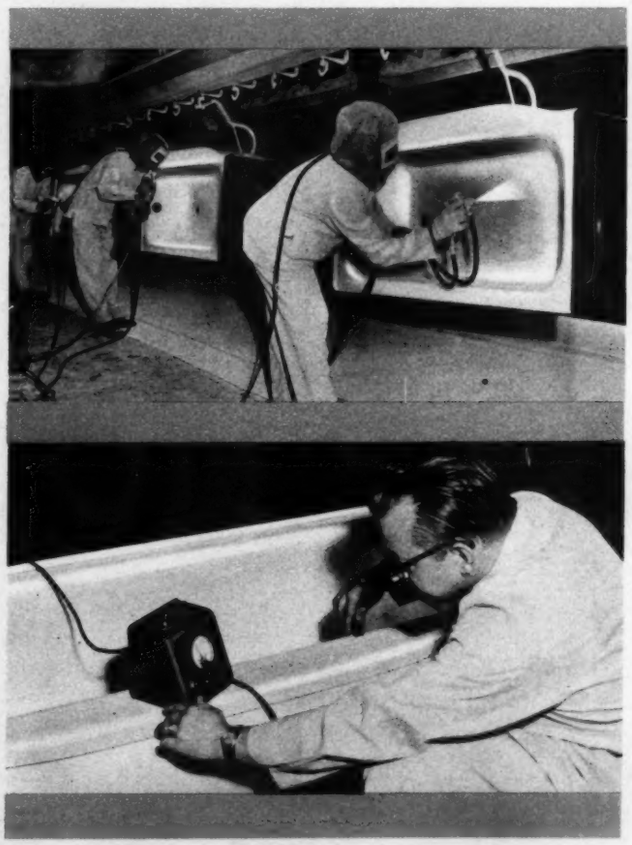
Briggs colors complement any type of home—any decorating theme

No matter what the style of a home—from Colonial to Contemporary—you can enhance the beauty of the bathroom and kitchen with any of Beautyware's sparkling sea-tone colors. Here are colors so natural and so pleasing that they complement any decorating theme—even suggest new decorating ideas—add greatly to a home's livability and saleability.

Briggs color processing is exclusive and exacting

Pressure-formed enameling steel—proven superior for many rugged porcelain products—is specially processed at Briggs into glass-hard, glass-bright color fixtures.

At Briggs, too, the finest clays are chemically blended and glazed under most exacting controls to assure matching vitreous china. As a leader in color processing, Briggs has made color fixtures available at new economical costs.



Briggs Beautyware finishes are fadeproof and stainproof

Briggs color finishes are so durable that they defy stains, acids, medicines and cosmetics, *just like glass itself.* In addition, they resist chipping and marring, and are absolutely fadeproof.

These are selling features that your customers will really understand and appreciate.

A Second Bathroom is Beautyware's new standard for American Living

BRIGGS MANUFACTURING CO. • 300 BUHL BUILDING • DETROIT 26, MICHIGAN

STEEL PIPE

AT AMERICA'S CROSSROADS

Steel pipe, like any other commodity, is good only if you can get it. *When* you want it, *where* you want it. In *sizes* that you need, in *grades* that suit your purposes.

AVAILABILITY: One word sums it up.

And steel pipe *is* available . . . thanks to the thousands of *jobbers* and *distributors* throughout the land. At the crossroads of America . . . serving the distribution function between mill and user with an effectiveness that could not be economically achieved by any other method.

The manufacturers of steel pipe acknowledge the great contribution of their jobber and distributor outlets with pride. Here is American business at its best . . . coordinating production and distribution for the good of all!

Steel Pipe is First Choice

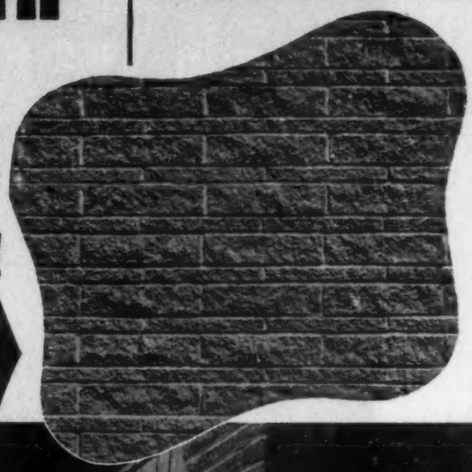
Committee on
STEEL PIPE RESEARCH
AMERICAN IRON AND STEEL INSTITUTE
350 FIFTH AVENUE, NEW YORK 1, N.Y.



To be sure...build with

BES-STONE

...the Split Block with Character!



Its "QUARRIED STONE" CHARACTER Combines BEAUTY and PERMANENCE at Low Cost!

To be sure, it pays to plan and build with BES-STONE Split Block. Pleasing, permanent colors . . . distinctive sizes for varieties of modular Ashler patterns satisfy the creative aims of architects, builders and owners. As veneer or solid masonry, they are RIGHT for homes and many other structures . . . commercial, public, industrial, institutional buildings . . . exteriors and interiors! You'll think of many more uses in terms of garden walls, planting-areas, fireplaces, barbecues. BES-STONE is fire-safe and storm-safe . . . makes a very attractive wall . . . is immune to vermin or rodent attack. And it's economical . . . requires no maintenance.





BES-STONE is the product of the BES-STONE Block Splitter. Contact your nearby Products Plant for literature, or write to the Besser Company, Box 173, Alpena, Mich.



Architecturally and structurally simplified by MODULAR SIZES.





World's Largest Manufacturer of Concrete Block Machinery



Judges of 1955 **SIGNIFICANT PLANT AWARDS** say:

"Quite a roof! . . No painting involved either inside or out"

Among the 1955 winners of FACTORY MANAGEMENT AND MAINTENANCE's Significant Plant Awards is Sunstrand Machine Tool Co. of Belvidere, Ill. This modern plant received a special award going to "plants that are outstanding in some one respect, or in which there is an unusual feature of broad significance."

Sunstrand is cited for its installation of Ingersoll Roof Deck. Here are some of the words used by FACTORY to describe the decking:

"Quite a Roof! . . . This construction provides high rigidity and strength with 8-ft. purlin spacing. This despite the fact that the panels have full freedom for expansion and contraction . . . high reflective property of aluminum cuts summer heat. No painting involved either inside or out."

The Ingersoll Roof Deck used in the new Sunstrand plant is a system of full-floating panels that simply clip to galvanized steel sub-purlins which are precision spaced and welded to the building purlins.

No field or maintenance painting is necessary . . . erection is fast and easy. The permanently bright surface of the panels improves plant lighting.



The plant completed. Its award-winning Ingersoll Roof Deck reduces maintenance

Available in aluminum and porcelain enamel

Ingersoll Roof Deck is available in either aluminum or porcelain enamel. The latter offers all the advantages described above . . . plus protection where corrosion or excessive moisture is a problem . . . or where the special gleaming look of double coats of porcelain enamel is an advantage.

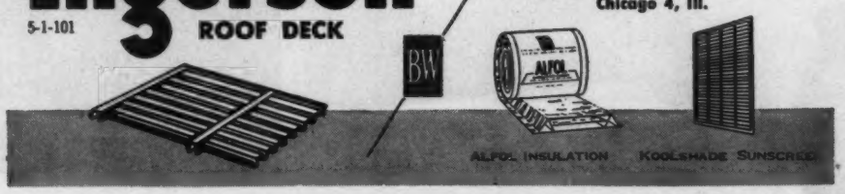
Write today!

New Ingersoll Roof Deck may be just right for your next job. Illustrated folders on both aluminum and porcelain enamel types are now available to give full details of this award-winning new system!



Ingersoll
ROOF DECK
5-1-101

REFLECTAL CORPORATION
A subsidiary of Borg-Warner Corp.
310 S. Michigan Ave., Suite 2857
Chicago 4, Ill.



AE PRODUCTS

(Continued from page 248)

LIGHT TRANSMISSION

Two new fiber-glass-reinforced plastic panels have been introduced by Alsynite:

Industrial daylighting is "colored" in "Flat Panes" which are available in standard glazing sizes and three colors: rose, green and blue, selected for their effect on worker morale. The panes will not crack, craze, warp, sag, buckle, rot or mildew.



Filtered light is provided in "Steplap," a building panel with a heat-blocking formula called "Filtron 25" to control light and heat ray penetration. Designed for patios, sun porches and carports, Steplap comes in five colors — white, yellow, coral, blue and green — and is available in lengths of 10½ ft and standard widths of 41½ and 31½ in. *Alsynite Co. of America, 4654 De Soto St., San Diego 9, Calif.*

WOOD PANELING

• *Savannah oak paneling* in random widths is factory-finished and waxed so that no further painting or staining is needed. The three-ply panels have a special clip application system that enables installation without nails once furring strips are applied. The 8-ft planks come in 6-, 8-, 10- and 12-in. widths. *Georgia-Pacific Plywood Co., 270 Park Ave., New York, N. Y.*

• A *wood-paneled partition* with mineral core construction is finished in hardwood veneer in a wide selection of woods. Held rigid by metal connectors which lock the panels in place and yet facilitate any necessary shifting, Weldwood Movable Partitions are 1¾ in. thick. With Weldrok mineral core, the panels offer a sound barrier said to be twice as effective as 2 x 4 stud partitions with metal lath and plaster on both sides. They come in widths of 24, 30, 36, 42 and 48 in. and lengths up to 8 ft. Accessible concealed wiring facilities are provided in the base, post and cornice. *U. S. Plywood Corp., 55 West 44th St., New York 36, N. Y.*

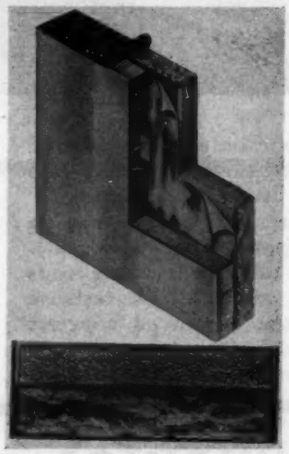
A/E PRODUCTS

STONE-FACED CONCRETE PANEL



Precast insulated concrete wall panels with exposed aggregate stone facings cast integrally with the panels are produced in a wide variety of surface textures from coarse to highly polished. The exposed aggregates, which may be quartz, granite, ceramics or vitreous enamels, are embedded in white or colored cement matrix to reveal a permanent, non-fading color which cannot be dulled by weather. A rigid sheet of 1½-in.-thick insulation forms the core of the panels. Specially designed tongue-and-groove joints with mechanical seal and calking ensure watertightness. *The Marietta Concrete Corp., Marietta, Ohio.*

PORCELAIN ENAMEL PANEL



A *porcelain-enameled curtain wall panel* of the double-faced variety provides an acid-resisting porcelain-enameled exterior face. Rigidity and flatness result from a concrete fill, a permanent vapor barrier, plus fiber-glass insulation and an inexpensive galvanized or plain steel interior face. The U-16 panel offers a U factor of .16 in its standard 2-in. thickness. All parts are incombustible. There is a minimum of through-conductivity by metal, which eliminates condensation and dust pattern formations on the inner or outer surfaces. All raw edges of the panel are removed from exposure to weather and are sealed under moisture-proof sealing tape. *The Erie Enameling Co., Erie, Pa.*

(Continued on page 259)



Los Angeles County Engineers Building
SAVES $13,300 in AIR CONDITIONING with KOOLSHADE SUNSCREEN

Problem: The Los Angeles County Engineers Building was to be air conditioned. The building was equipped with Venetian blinds, but the engineers investigated several other window-shading devices in search for one that would do a better job of cutting air conditioning requirements.

Solution: Tests proved that solar heat transmission through the blinds—even when tightly closed—amounted to 1,102,000 BTU's. With KoolShade, only 232,000 BTU's. In refrigeration requirements, the difference amounted to 72 tons! Costwise, this reduction in tonnage adds up to a net saving of $13,300 over and above the cost of the KoolShade . . . and to this must be added the substantial annual savings from lower operation and maintenance of the cooling equipment.

By keeping the heat and glare of the sun *outside* the building, KoolShade Sunscreen eliminates hot spots and excessive loads . . . provides a balanced and trouble-free installation.

Only KoolShade Sunscreen offers



- **unsurpassed shading efficiency**—keeps up to 87% of the sun's rays off windows during the hottest part of the day—100 sq. feet of KoolShade reduces air conditioning load 1 ton.
- **80% clear visibility**—admits maximum glareless light.
- **harmony with all architecture**—improves building's appearance.
- **virtually no maintenance**—constructed of strong preoxidized bronze strips, wired and framed together, lasts for years, withstands hard blows.

Send today



for this detailed and illustrated bulletin. And for expert help in cutting costs and sun problems, just request a call from a KoolShade engineer. No obligation or charge.

Distributor franchise still open in many communities for those who qualify.

KOOLSHADE Sunscreen BW

REFLECTAL CORPORATION
A subsidiary of Borg-Warner Corp.
310 S. Michigan Ave., Suite 2858
Chicago 4, Ill.





Here's how the New Fenestra TAC Panel System works! Troffer or acoustical panel units—each 24 inches wide—may be arranged in any combination.

A noncombustible acoustical element is "built in" the acoustical panels. Minimum-cost fluorescent fixtures and plastic diffusers are installed in the troffer panels to provide recessed lighting.

Long-span design makes for quick erection, and the panels need support only on the ends and at mid-span while concrete is being poured. This reduces cost of shoring usually required.

Complete erection service under Fenestra supervision is available in many areas.

Since the TAC Panels carry no building loads after the concrete has cured, all fire-resistive ratings are based on the reinforced concrete structural system.

PROVEN IN MICHIGAN SCHOOL BUILDINGS



TAC Panels in place, ready for pouring concrete at one of 14 Michigan schools now under construction with this new system. See how the long span design reduces shoring requirements to only mid-point support. **Marsh School**, Detroit, Michigan. *Architect:* C. Gabler. Detroit Board of Education, George L. Schulz, *Consulting Architect.* *Contractor:* Ellis Construction Co.



Here's a quiet, well-lighted classroom . . . the result of TAC Pane construction. Maintenance costs are low, because the ceiling can be washed or painted as needed, without reducing the acoustical efficiency. The plastic diffusers are easily removed for servicing lighting fixtures. **Pasteur School**, Detroit, Michigan. *Architect:* Leo M. Bauer. *Contractor:* Maurice Strandberg Co.



An ideal ceiling for gymnasiums and multi-purpose rooms. The acoustical treatment "built in" the cellular steel panels cannot be damaged by balls thrown against it. The recessed lighting fixtures are economically protected by wire guards. **Gompers School**, Detroit, Michigan. *Architect:* Donaldson & Meier. *Contractor:* A. W. Kutsche & Co.

FENESTRA TROFFER-ACOUSTICAL PANEL SYSTEM CUTS COST OF REINFORCED CONCRETE SCHOOL CONSTRUCTION

Multi-purpose Steel Panels provide long-span forms for concrete joists *plus* acoustical ceilings and recessed lighting troffers *built right in!*

Multi-purpose is the key to economy in school construction. The NEW Fenestra* Troffer-Acoustical Panels (TAC Panels, for short) are designed for multi-purpose use of materials and construction labor. They permit you to have acoustical treatment and lighting—features that usually require extra time and labor—*built right in the structure itself.*

Money is saved because 3 expensive building materials are wrapped up in these economical building panels: (1) the forms for concrete joist construction, (2) metal pan acoustical ceilings, and (3) recessed lighting troffers.

Time is saved because the structural floor for the rooms above and the acoustical ceiling and lighting system for the rooms below are completed at the same time . . . with only paint, finished flooring and installation of fluorescent fixtures to be done after the concrete has cured.

And, this new building system gives you better-looking, better-lighted classrooms that are easier to maintain, year after year. The ceilings can be washed or repainted as often as needed, without affecting the acoustical treatment. There is no hanging ceiling or "stuck on" acoustical material to be damaged or replaced.

Investigate the New Fenestra TAC Panel System now. Even if you have plans on the drawing board, they may easily be adapted to use it. Write today for your copy of the new brochure, *Fenestra TAC Panel System.* Detroit Steel Products Co., Dept. AR-6, 2252 East Grand Blvd., Detroit 11, Michigan.

*Trademark

NEW! TROFFER PANEL for Fenestra "D" Panel Construction in one-story schools

Now you can have *built-in* troffer lighting in one-story school buildings designed with Fenestra Type "D" Acoustical-Structural Building Panels.

Standard troffer lighting fixtures may be installed flush with the acoustical ceiling in this new Type "D" Troffer Panel, eliminating hanging fixtures and exposed wiring conduits.

Write Detroit Steel Products Company, Dept-AR-6, 2252 East Grand Blvd., Detroit 11, Michigan, for your copy of the new book, *Fenestra for Schools,* and for complete details on this new Troffer Panel.



Fenestra

TAC

TROFFER-ACOUSTICAL

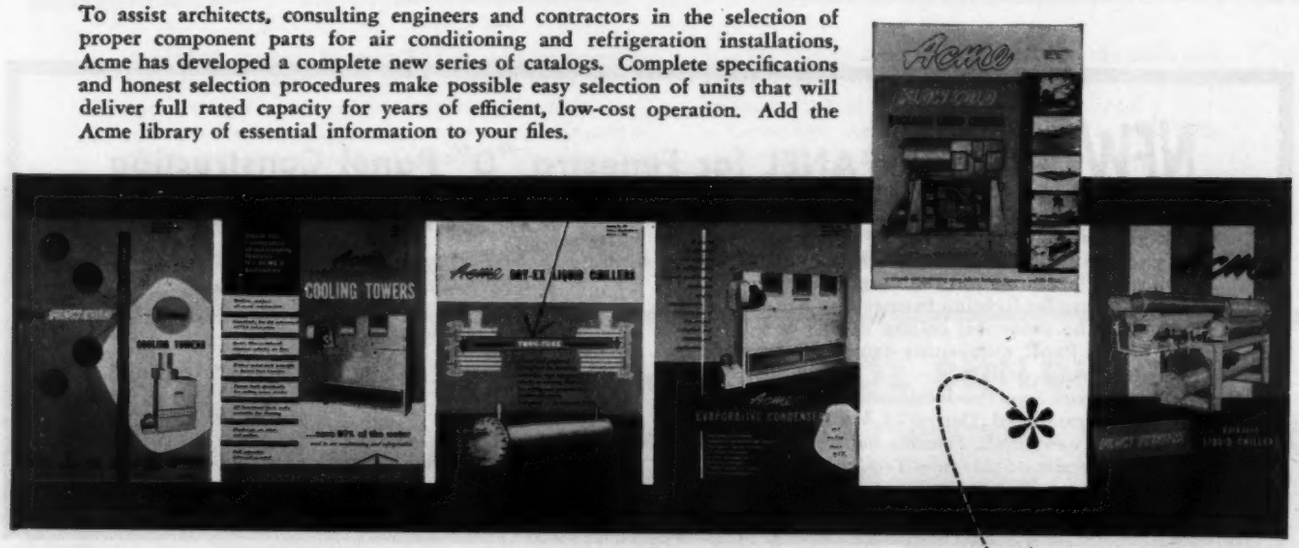
BUILDING PANELS

the WHY *of* Acme LEADERSHIP *in air conditioning and refrigeration engineering*

Acme Industries, Inc., of Jackson, Michigan has been serving the Air Conditioning and Refrigeration industries since 1919. During that long span of years, Acme engineers have built a fount of knowledge and technical experience that enables them to design, build, and select products to fit any temperature control problem. Leading architects, engineers, refrigeration contractors, and manufacturers have come to depend upon and insist upon Acme products in their installations. Long lists of satisfied Acme users line the ranks of American business and industry. You can look to Acme for superior performance in all phases of air conditioning and refrigeration.

the Acme air conditioning and refrigeration library

To assist architects, consulting engineers and contractors in the selection of proper component parts for air conditioning and refrigeration installations, Acme has developed a complete new series of catalogs. Complete specifications and honest selection procedures make possible easy selection of units that will deliver full rated capacity for years of efficient, low-cost operation. Add the Acme library of essential information to your files.



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Manufacturers of Quality Air Conditioning and Refrigeration Equipment since 1919

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- Ble-Cold Unit Coolers
- Dry-Ex (direct expansion) Liquid Chillers
- Shell-and-Tube, Shell-and-Coil Condensers
- Flow-Cold packaged Liquid Chillers to 15 tons
- Flow-Therm packaged Liquid Chillers to 220 tons
- Heat Exchangers
- Liquid Receivers
- Flow-Temp Heat Pumps
- Remote Room Conditioners
- Oil Separators

[ ] Acme Flow-Cold Cooling Towers, 2 to 15 tons
[ ] Acme Cooling Towers, 15 to 70 tons
[ ] Acme Dry-Ex (Direct Expansion) Liquid Chillers
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[ ] Acme Flow-Cold Packaged Liquid Chillers, 2 to 15 tons
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AE PRODUCTS

(Continued from page 255)

DISTORTION-FREE PLATE GLASS



Distortion-free plate glass is now available for glazing. A new process consists in grinding both sides of the glass at the same time, instead of one side at a time, thus eliminating the margin of error by using precision-controlled grinders to assure near-perfect parallelism. The difference in distortion is shown in the picture above, where the right half of the window is twin-ground plate glass and the left half is not. All LOF plate glass is now "Parallel-O-Plate." *Libby-Owens-Ford Glass Co., Nicholas Bldg., Toledo 3, Ohio.*

BUMPER FOR DOOR KNOBS



A *molded-rubber bumper* for door knobs is concave so that button-type lock knob will not be engaged or injured when the door opens. A hidden method of attachment makes impossible removal of the bumper except by authorized persons. *Glynn-Johnson Corp., Chicago 40, Ill.*

ALUMINUM ROOFING SHINGLES

LoomRoof aluminum roofing shingles are guaranteed to be waterproof, windproof, fireproof, termiteproof and sturdy. Available in 12 colors, they will keep homes up to 25 per cent cooler in summer and warmer in winter, according to the manufacturer. *LoomRoof Corp. of America, P.O. Box 9536, Pittsburgh 23, Pa.*

(Continued on page 262)

Want the best?

then specify **TECO**

Trip-L-Grip

FRAMING ANCHORS

for stronger, more economical nailed joints in

ROOF FRAMING

Anchor rafters and joists to prevent wind damage.

FLOOR AND CEILING FRAMING

Trip-L-Grips are more versatile, less costly than strap hangers or ledgers.

WALL FRAMING

Trip-L-Grips tie a structure together more rigidly to resist forces from any or all three directions.

Send today for these 3 new folders showing specific Trip-L-Grip uses.



AR-554

TIMBER ENGINEERING COMPANY
1319 18th Street, N.W., Washington 6, D. C.

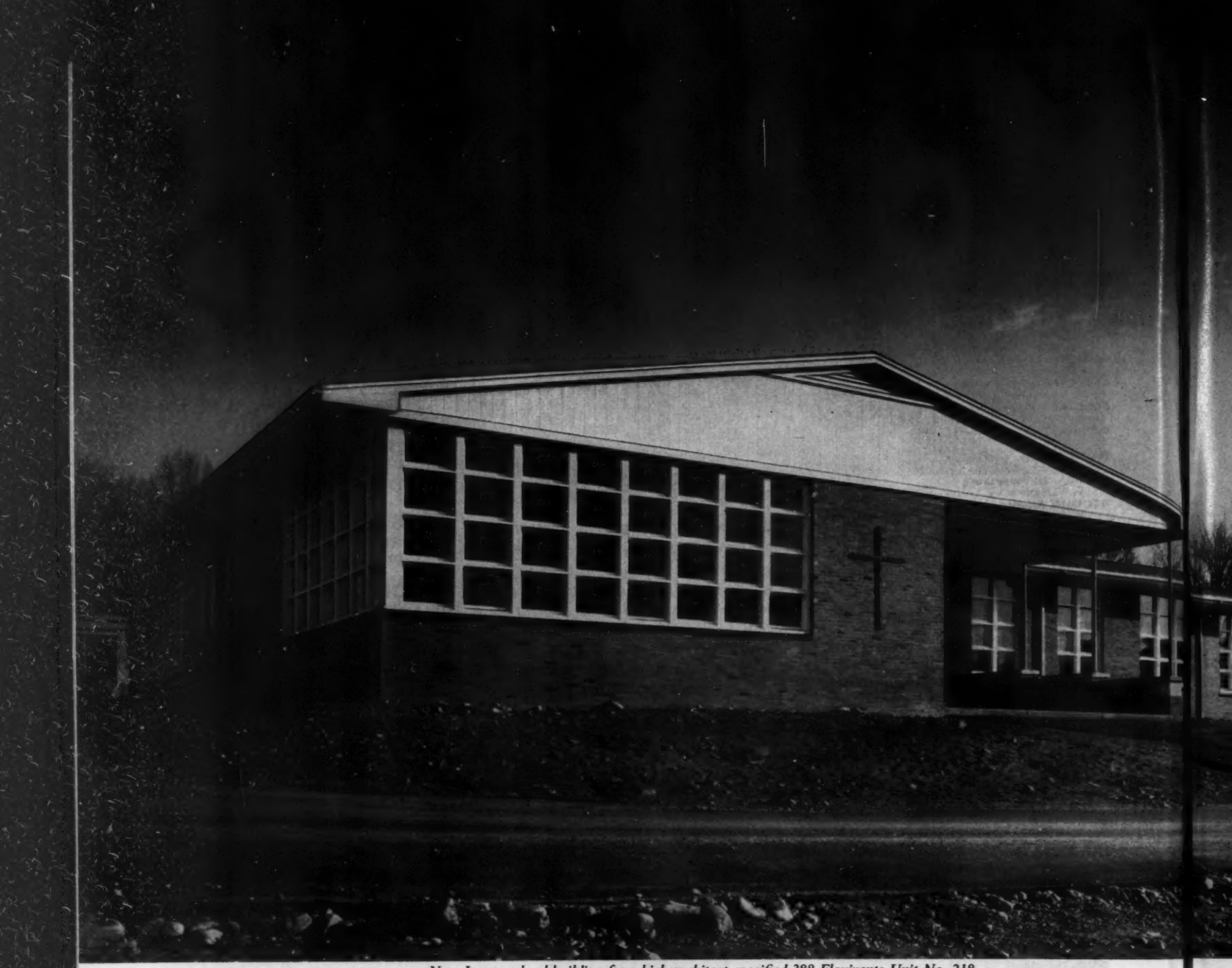
Please send the 3 new folders on TECO Trip-L-Grip Framing Anchors.

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Firm.....

Address.....

City.....Zone.....State.....



New Jersey school building for which architect specified 388 Flexivents Unit No. 218.

Versatile Andersen prove ideal for school

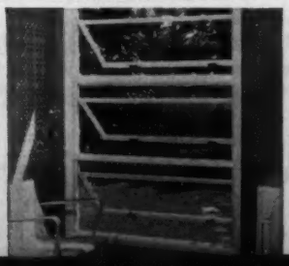
Combination of bright, airy classrooms contained in a building of pleasing design has been achieved through effective use of Flexivents in Holy Rosary School at Erskine Lakes, New Jersey. Flexivents were specified by Architect, Brother Cajetan J. B. Baumann, O.F.M., A.I.A. Builder David Stokem finds Flexivent's "price is right, installation is simple and there are no window failures." In Holy Rosary School the architect has used large, 32-sash groupings of Flexivents with bottom and third row vented hopper style, alternate rows fixed glazing. Dimensions of the Flexivent No. 218 used here adapt perfectly to the architectural style of the building. Utilization of both operating and fixed sash provide for the fresh air and sunshine so desirable in school rooms. WINDOWALLS sold by established lumber dealers throughout the United States including the West Coast.

FLEXIBLE IS THE WORD FOR *FLEXIVENT*

Hopper position



Awning position



Snap Lock for Flexivents in high hopper positions



New optional Roto Lock, Underscreen Operator...



Optional Andersen Double Insulating Glass...



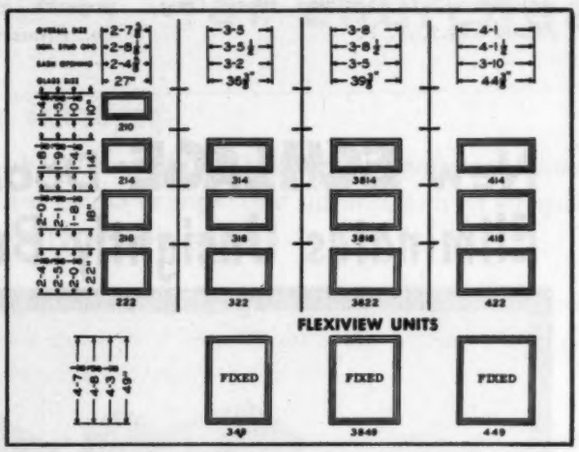


FLEXIVENT® units construction

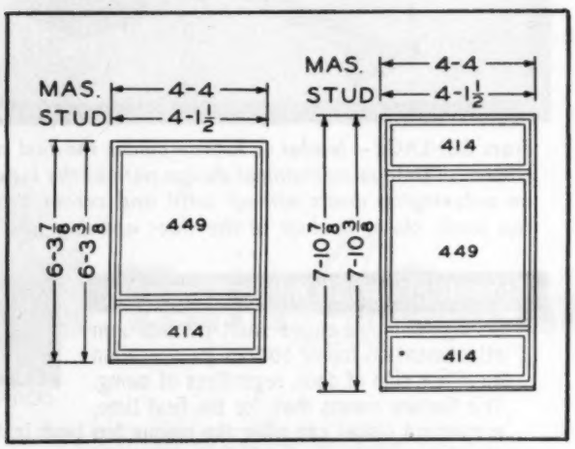
New FLEXIVIEW picture units... new 3'8" width make FLEXIVENT more versatile than ever!

Even greater design possibilities now stem from the versatile Flexivent. New Flexiview Units, picture window partners to the Flexivent, can be combined with either fixed or operating Flexivent Units to form WINDOWALLS of remarkably low over-all cost per square foot.

Addition of the new 3'8" width to the Flexivent line, including the Flexiview Picture Units, makes the Flexivent perfectly adaptable to 4' modular panel systems of construction.



New table of sizes shows complete new Flexivent line. Flexiview Picture Units are glazed either DS with quality window glass or with Andersen Double Insulating Glass.



Suggested combinations particularly adaptable to schools, indicate the wide range of picture window possibilities available with addition of new Flexiview Picture Units to the Flexivent line.

Andersen Windowalls

COMPLETE **WOOD** WINDOW UNITS

TRADEMARK OF ANDERSEN CORPORATION

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BAYPORT, MINNESOTA

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Please send me detail information on Andersen Flexivent Windows including new Flexiview Picture Units.

Please check { ☐ also send Detail Catalog ☐ also send Tracing Detail File

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Firm.....

Address.....

City.....*Zone*....*State*.....

AIE PRODUCTS

(Continued from page 259)

MASONRY BOND

Permagile is a new sealing and waterproofing compound which can be applied to cement, concrete, cinder blocks or masonry to form a permanent barrier against the entry of water. It is supplied in the form of a paste and turns into a hard, mineral-like substance of extraordinary strength. *Permagile Corp. of America, 32-14 Northern Blvd., Long Island City 1, N. Y.*

AUTOMATIC REVOLVING DOORS

The first two-speed *automatically powered revolving doors* ever to be installed are now operating in the Pioneer Building, St. Paul, Minn. The doors are powered to revolve constantly at 3 rpm. When a person touches the crossbar of the door, the motor speeds the revolutions to 9 rpm, which is normal walking speed. The mechanism can be adjusted to permit a maximum speed of 12 rpm, but an automatic governor device holds it to this safe speed regardless of the pressure exerted. *International Steel Co., Evansville, Ind.*

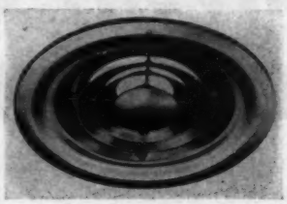
AIR CONDITIONING

A year-round air conditioning system for multi-room installations in institutions, hotels, and private residences uses the same piping circuit as the usual heating-air conditioning systems. The *Dual Conditioner* system does not require any ducts and can be used in any fireproof building. Each room or area is supplied with individual thermostat and capacity control and each unit is its own control, independent of all others. *Circle Air Industries, 244 Herkimer St., Brooklyn, N. Y.*



An *air conditioning system*, installed for the first time in a 16-story penthouse apartment building at 20 East 68th St., New York City, utilizes independently operating, individual room units designed to be built into the exterior wall so that there is no projection from the outside of the building. In the interior the silently operating unit is also virtually flush. All three capacities — ½, ¾ and 1 hp — are identical in size to permit uniform construction of wall enclosure. Heating and cooling are entirely separate. Each is under the control of the occupant and is metered for cost. *Chrysler Airtemp Div., Chrysler Corp., Dayton, Ohio.*

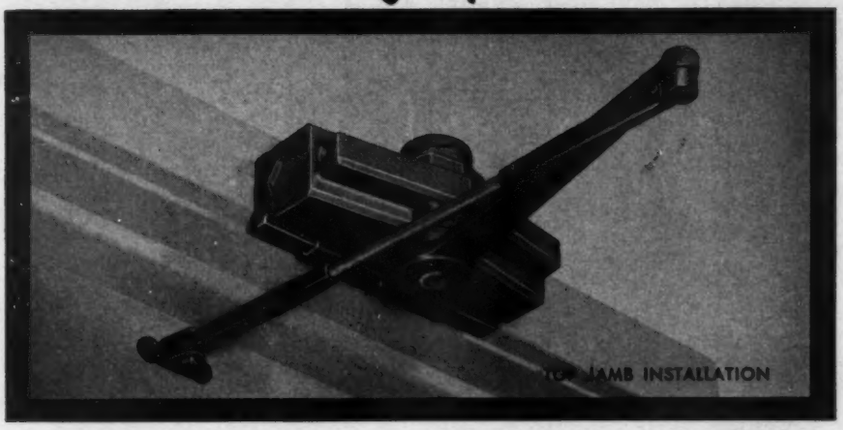
SOUND BAFFLE



Sound baffles for low ceiling areas where attractive decor, speaker concealment and high audible efficiency are requisites are available in the Lowell STL baffle. It has a series of louvers with a conical sound diffuser which is said to provide controlled 360-deg dispersion of even, undistorted low-level sound. The 18-gauge spun aluminum baffles accommodate 6- to 12-in. speakers. *Lowell Mfg. Co., 3030 Laclede Station Rd., St. Louis 17, Mo.*

(Continued on page 266)

New SCHLAGE Door Closer Eliminates Unsightly Brackets...



From SCHLAGE—leader in locks—comes the first architecturally styled door closer . . . Unique mechanical design permits the installation of Schlage closers on outswinging doors without soffit and corner brackets . . . Installed on the top jamb, closer is clear of the door opening insuring maximum headroom.

Completely Reversible Without Disassembly

Schlage's double-ended shaft permits arm attachment on top or bottom for operation on either side of door, regardless of swing. This feature means that, for the first time, a standard closer can offer the unique top jamb installation shown above.


CONVENTIONAL INSTALLATION

Easier to Adjust

Two simple screw adjustments provide any desired combination of swinging speed and closing power . . . in a matter of seconds.

Easier to Install

Use of separate mounting plates eliminates need for holding closer during installation. Result—far simpler installation; real economy of time and labor.

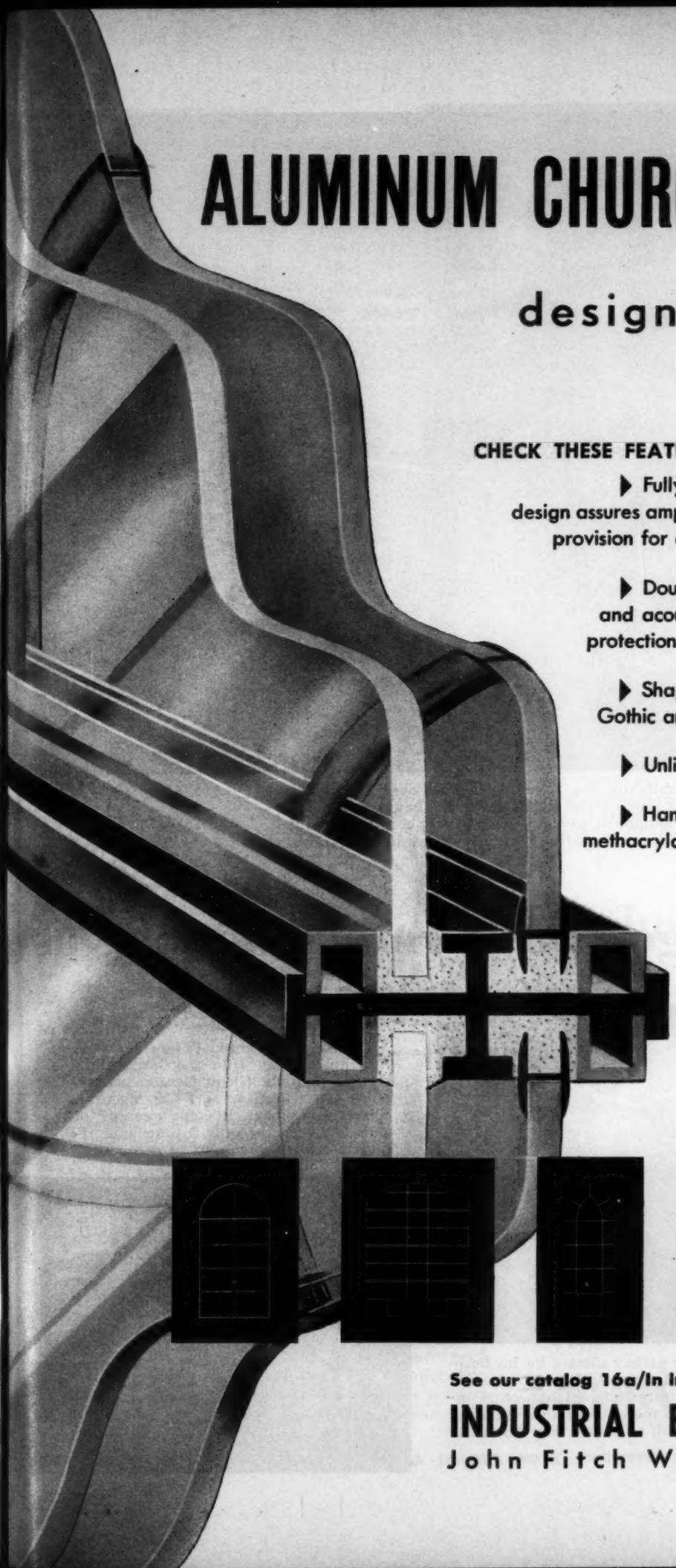
Full Rack and Pinion Mechanism

Complete control throughout the entire swing of the door is provided by a full rack and pinion mechanism. Teeth are pitched for greatest strength and are sufficient to permit 230° shaft rotation.

Write today for complete information on the new Schlage closer . . . ask for Booklet #680-A-6.

SCHLAGE

SCHLAGE LOCK COMPANY
San Francisco • New York • Vancouver, B.C.
Write to Schlage Lock Company, San Francisco



ALUMINUM CHURCH WINDOWS

designed exclusively for churches

CHECK THESE FEATURES:

- Fully extruded TWIN BEAM muntin and frame design assures ample strength and stiffness with an integral provision for double glazing.
- Double glazing offers maximum thermal and acoustical benefits plus the added value of protection for stained glass.
- Shaped heads are available in round, Gothic and square design.
- Unlimited range of sizes and designs.
- Hand rubbed satin finish protected by clear methacrylate lacquer coating.

Twin Beam
PAT. APPLIED FOR

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INDUSTRIAL ENGINEERING WORKS
John Fitch Way • Trenton, N. J.



Located in Manhattan, the Port Authority Bus Terminal handles over 2,500 buses daily. Loading and unloading stations are on two levels: one in the basement, one on the third floor. American Blower equipment provides fresh atmosphere throughout the terminal's 11,376,000 cu. ft. of space, including its nearly 90 business locations.

World's largest bus terminal doubles as



Each store proprietor chooses the perfect climate for his business . . . thanks to 90 individual American Blower Air Conditioners. The adaptability of the units allowed horizontal or vertical installation, saved space. In the smaller shops, units are ceiling-suspended and fully enclosed; others are floor-mounted.

To air-condition terminal's bowling alley, American Blower Unit was installed in vertical position. Glenn Gessler, maintenance supervisor, says — "I like American Blower equipment. Periodic cleaning of coils has been the only maintenance required in over four years of operation!"







Two American Blower Ventilating Fans, housed in the tower atop the Port Authority Terminal, exhaust fumes and gases from the basement bus-loading level at up to 150,000 cfm. Giant-sized (about 18 ft. in diameter), they provide a change of air every nine minutes.

complete air-conditioned shopping center

In addition to ventilating huge interior roadways, the Port of New York Authority Bus Terminal uses American Blower equipment to individually air-condition its nearly 90 stores

The Port of New York Authority Bus Terminal is more than the world's largest bus terminal, serving 130,000 commuters a day . . . it's also a complete shopping center with nearly 90 business establishments. Here, you can board a bus, go bowling, or buy almost anything—from a quick snack to a short shave—in ocean-fresh atmosphere supplied by American Blower equipment.

There are two bus-loading levels. One is below ground, where large American Blower Ventilating Fans change the air every nine minutes. The other is on the third floor. During rush periods, as many as 750 buses an hour load and unload. But fumes are no problem.

Each of the business locations, however, has its own climate requirements. The candy store, for instance, needs cool temperatures to keep chocolates firm; the pet shop, with its snakes and tropical fish, requires warmer temperatures. Ninety American Blower Air Conditioners—which individually cool, heat, filter, and dehumidify—enable each proprietor to select the exact climate he wants . . . without recirculating the odors of the other stores.

Every day, more and more people benefit from the efficiencies and economies of American Blower equipment and service. How about *you*? Whether your air-conditioning or ventilating needs are large or small, contact your American Blower Branch Office for friendly, expert assistance. In Canada: Canadian Sirocco Co., Ltd.

AMERICAN BLOWER CORPORATION, DETROIT 32, MICHIGAN
CANADIAN SIROCCO COMPANY, LTD., WINDSOR, ONTARIO
Division of American Radiator & Standard Sanitary Corporation

AMERICAN BLOWER

Serving home and industry: AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS & WALL TILE • DETROIT CONTROLS • KEWANEE BOILERS • ROSS EXCHANGERS • SUNBEAM AIR CONDITIONERS

(Continued from page 262)

INDUSTRIAL CURTAINS

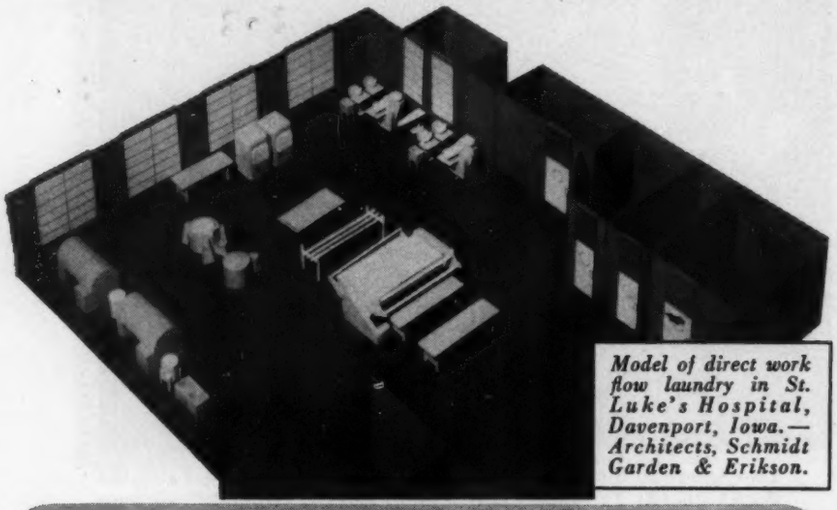
• *Industrial curtains* for the protection of personnel and equipment during maintenance and repairs consist of a fabric base woven of Fiberglas or nylon yarn coated with synthetic plastic resins. Because of its inability to support combustion, Duratex fabrics are practical for welding curtains and as electrical insulating blankets. They are lightweight, have high breaking and tearing



strength, are snag- and dirt-resistant, withstand temperature extremes and are resistant to water, oil, grease, alkalis and most acids. The installation shown above is a successful application of Duratex as room-dividing curtains in Shaw High School, East Cleveland. *Duracote Corp., Ravenna, Ohio.*



• A *sound barrier curtain*, lightweight and retractable, is made of a flame-resistant and sound-reflecting material known as Bemisorb, a specially treated and coated burlap. Designed for individual applications, Transwalls can be installed anywhere in a factory (and in other types of buildings) to isolate machine and production noise and to protect against potential fire hazards. They consist of 7-in. panel folds, chain-spaced to prevent complete extension and supported by steel top plates that operate on nylon wheels in an enclosed track. Available in decorator colors. *Bemis Bag Co., 325 27th Ave. N. E., Minneapolis, Minn.*



Model of direct work flow laundry in St. Luke's Hospital, Davenport, Iowa.— Architects, Schmidt Garden & Erikson.

Save floor space with an efficient laundry layout

If the hospital, hotel or institution you're designing will have its own laundry, inquire about Troy's complete laundry planning service. Troy will work with you and draw up a blueprint layout of equipment based on direct work flow. Troy will also make *detailed* equipment recommendations.

An experience-tested layout, plus modern labor-saving machinery enables you to give your client the most efficient laundry possible — at an actual savings in floor space. So call on Troy while the laundry is in the early planning stages. Or, send for Troy's free 100-page Architects Data Book. It shows machine dimensions, steam and electrical requirements, typical floor plans and many other helps.

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"World's Oldest Builders of Power Laundry Equipment".

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FIRM NAME

ADDRESS

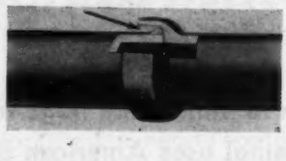
CITY ZONE STATE

ATTENTION MR.

METAL AWNING

A *convertible door hood* that can be changed quickly from straight slope to "camelback" style is of aluminum and stainless steel construction and has baked-on colors. *Alumatic Corp. of America, 2081 S. 56th St., Milwaukee, Wis.*

VITRIFIED CLAY PIPE



Wedge-Lock clay pipe is a root-proof, infiltration-proof vitrified clay pipe with a self-sealing, double-ball mechanical joint. It is designed for installation in plastered walls, under basement floors, in high-water areas and wherever root-proof joints are desired. Wedge-Lock has a wide, solid ring of plastisol around the spigot end of the pipe's barrel and a conical ring of plastisol inside the bell. The spigot is inserted into the bell of the adjoining length, and when the adhesive sets, the two plastisol castings fuse permanently, allowing neither the sewage wastes to seep out nor ground water to seep in. Wedge-Lock is available through member manufacturers of the *Clay Sewer Pipe Assoc., Columbus, Ohio.*

(Continued on page 271)



Framingham Motor Inn (Mass.)
"Winds reached a velocity of 125 miles an hour . . . we did not lose one FIRE-CHEX shingle!" says C. D. McCarthy, Secretary.

Talk about wind resistance...

Wheeler Farm, Riverside, R. I.
"While all nearby homes and buildings lost all or a good part of their roofs, we did not lose a single FIRE-CHEX shingle," writes C. A. McBride, Owner.

FIRE-CHEX SHINGLES wouldn't say "Uncle" to the Hurricanes!

Here's *real* proof that Fire-Chex shingles have no equals for rugged strength and wind-resistance.
Not a single Fire-Chex roof, inspected in the wake of hurricanes Carol, Edna and Hazel, was found to be damaged!

You can specify unequalled protection and value in roofing, Fire-Chex, for just a few dollars more than conventional materials. And for *much less* than slate or tile (both of which knuckled under to the hurricanes). By *any* comparison, Fire-Chex are an economy. "They will outlast conventional roofing several times over," as stated by a foremost authority.* And Fire-Chex are the only roofing of any kind rated Class A for fire-safety, without asbestos underlayment!

Choose from a wide range of Fire-Chex shadow blends and solid colors to give your homes distinctive beauty. Ask your Carey representative for samples, application data and full-color literature.

*Name on request

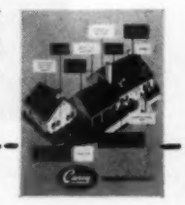
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FIRM_____
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In the new Texas Children's Hospital . . .

Pittsburgh Glass was utilized for maximum visual freedom



THIS MODERN HOSPITAL for child care reflects in its physical arrangement the best in functional design. A simple rectangle in shape, five stories high, this building utilizes broad expanses of Pittsburgh Glass for added beauty and practicality. The use of Pittsburgh's Solex® Heat-Absorbing, Glare-Reducing Glass on the third and fourth floors of all patients' rooms is a distinct contribution to their comfort. Solex keeps rooms cooler, protects them from the intense glare from direct sunlight. Architect: Milton Foy Martin, A.I.A., Houston, Texas.

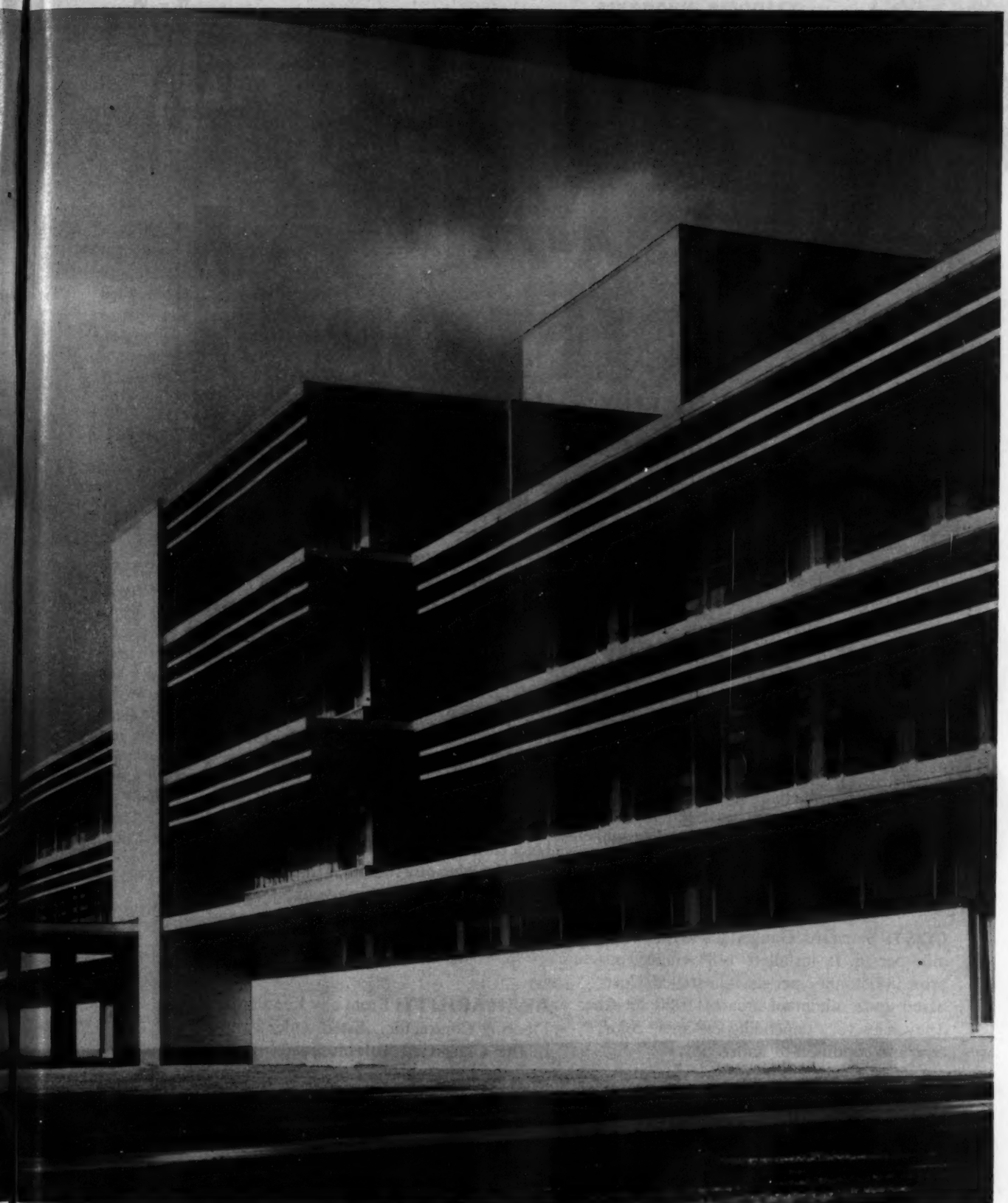
IN THE MAIN LOBBY, large areas of Pittsburgh Plate Glass help to achieve a cheerful, attractive atmosphere. The two doors and two sidelights, which make up the main entrance, are Herculite® Tempered Plate Glass — a glass that is noteworthy for its characteristics of sturdiness, strength, transparency, and endurance. Herculite has approximately four times the strength of normal plate glass of the same thickness.

LARGE PANELS of Pittsburgh Plate Glass are used to enclose the snack bar and gift shop located near the lobby on the ground floor. All the mirrors in this hospital building are made from Pittsburgh Polished Plate Glass.





Design it better with **Pittsburgh Glass**



Your Sweet's Architectural File contains detailed information on all Pittsburgh Plate Glass Company products... Sections 6a, 15d, 20, 12e, 15a.

PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS · FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

Presenting ROYAL KENFLOR

TRADE MARK

VINYL TILE

Latest Flooring Development by Kentile, Inc.

DESCRIPTION: Royal KenFlor is a non-porous homogeneous vinyl tile flooring that will never need waxing. It is grease-proof, fire resistant and highly resistant to detergents, acids, inks, dyes and other staining liquids as well as alkalis and alcohols. Laboratory and in-use tests have proved the outstanding wear resistance and durability of this highly resilient vinyl floor.

SIZE: Standard tile sizes are 9″x9″ in 1/8″ and Standard Gauge (.080) thicknesses. Note: Royal KenFlor in Standard Gauge is ideal for residential installation.

COST: Standard Gauge, (.080) approx. .60¢ per sq. ft. installed. 1/8″ Gauge, approx. .80¢ to .85¢ per sq. ft. installed. Costs based upon minimum area of 1000 sq. ft. They may vary depending on area, color, type and condition of underfloor.

COLORS: Available in 17 marbleized colors as well as solid black and solid white.

FINISH: Exclusive Satin Finish of Royal KenFlor cuts down reflection of scratches and underfloor irregularities.

FEATURE STRIP: 1″ wide strips for decorative design uses are available in both gauges. In 6 colors to match Royal KenFlor Tile…4 marbleized, 1 solid black and 1 solid white.

INSTALLATION: With KenGrade* Adhesive over any smooth, firm interior surface that is at or above grade and free from oil, grease or foreign matter…over metal, wood, plywood and concrete.

AVAILABILITY: From any Kentile, Inc., Flooring Contractor…listed under FLOORS in the Classified Telephone Directory. *Samples and Technical Literature:* available to architects, builders and designers. Write the nearest Kentile, Inc. office listed below.

KenCove®—*the all-vinyl wall base makes the perfect combination where floor meets wall.*

KENTILE, INC.

America's largest manufacturer of resilient floor tiles

*TRADE MARK

KENTILE, INC., 58 SECOND AVENUE, BROOKLYN 15, NEW YORK • 350 FIFTH AVENUE, NEW YORK 1, NEW YORK • 705 ARCHITECTS BUILDING, 17TH AND SANSOM STREETS, PHILADELPHIA 3, PENNSYLVANIA • 1211 NBC BUILDING, CLEVELAND 14, OHIO • 900 PEACHTREE STREET N.E., ATLANTA 5, GEORGIA 1016 CENTRAL STREET, KANSAS CITY 5, MISSOURI • 4532 SO. KOLIN AVENUE, CHICAGO 32, ILLINOIS • 4501 SANTA FE AVENUE, LOS ANGELES 58, CALIFORNIA

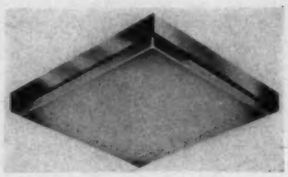
AE PRODUCTS

(Continued from page 266)

LIGHT FIXTURES

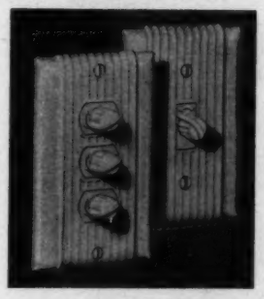


• An *Illuminated Metal Side* fluorescent light fixture (Series 8000) reflects a small portion of the upper component of light onto the side panels, causing them to glow and providing shielded, evenly distributed light. Louvers are hinged so they can be swung down for cleaning. *H. E. Williams Products Co., Carthage, Mo.*



• *Light diffusing panels* of white translucent Plexiglas molded in a 4-ft-square shape produce high-intensity lighting at low brightness. The matte-finished Plexiglas panels are supported in a rigid metal frame and "float" on reinforcing ledges to prevent strains or warping. A hinge allows the panel to be swung open and remain hanging or be lifted out completely. The units are available for four, six or eight 48-in. fluorescent or slimline lamps. *Sunbeam Lighting Co., 777 East 44th Pl., Los Angeles 31, Calif.*

GLOWING LIGHT SWITCH



The *Roto-Glo light switch* is turned like a radio knob and glows in the dark after being exposed for a moment to any light source. The quiet switch, for A-C circuits, can be used to full current rating on fluorescent and incandescent lighting loads and on motors when the full load current is not more than 80 per cent of the rating of the switch. *Pass & Seymour, Inc., Solvay Station, Syracuse 9, N. Y.*

(Continued on page 274)

HUBBELL top quality WIRING DEVICES installed in new SIKORSKY AIRCRAFT PLANT

HUBBELL

REG. U.S. PAT. OFF.



Twist-Lock®

NO. 7310 20 amp. 250 v. 10 amp. 600 v.
used in production areas

New plant — Sikorsky Aircraft, Div. of United Aircraft Corp., Stratford, Conn.

ARCHITECTS:
F. A. Fairbrother — Geo. H. Miehls, Architect and Engineer; Albert Kahn Associated Architects and Engineers, Consultants, Detroit, Michigan

ELECTRICAL CONTRACTORS
FOR MAIN PLANT:
Fischbach and Moore, Inc., New York, N. Y.
FOR MANUFACTURING FACILITIES:
Eastern Electric Construction Co., Bridgeport, Conn.

HUBBELL SUPPLIER
Sprague Electrical Supplies, Inc., Bridgeport, Conn.



Specification Grade
NO. 5262
Convenience Outlet
used in office area

15 amp. 125 volts



For over 20 years . . .
Sikorsky has used Hubbell Highest Grade Heavy Duty Wiring Devices in their factory locations. This new, ultra-modern plant at Stratford, Conn., is no exception. Hubbell devices are being installed both in factory and office areas.

In the Factory . . . 3-wire Twist-Lock separable connectors are being installed wherever motor driven tools or portable electrical apparatus will be used.

In the Office . . . specification grade, 3-wire, grounding-type convenience outlets will be standard equipment for electric typewriters, adding machines, and other business machines.

Hubbell devices are designed to meet the steadily increasing load requirements of industry. Specify Hubbell — for increasing electrical capacity . . . for safety and convenience . . . for pleasing appearance . . . and for grounding protection.

Highest Grade
HEAVY DUTY
WIRING HUBBELL DEVICES

FACTORY WAREHOUSE LOCATIONS ASSURE NATIONWIDE STOCK AVAILABILITY

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Help your clients avoid



d "fish bowl" distractions!



Actual test shows work output increased 27% after installation of VMP MOBILWALLS

Plan your client's office with VMP's metal, movable partitioning, and he'll get permanent low-cost protection against old-fashioned "fish bowl" conditions. MOBILWALLS cut down noise, sharply reduce delays and errors. With the privacy they afford, routines run smoother, and work-stopping distractions are virtually eliminated. MOBILWALLS are ideal for every office—large or small. If you're designing a new office for your client—or revamping an old one—be sure to find out the many benefits that MOBILWALLS add to your plans.

We can show you the efficiency gains that this partitioning makes possible—how much it cuts down on costly delays. We'll demonstrate with Ratio-Delay Studies—accurate reports that rate office efficiency; they measure work output, delays, corrections, and lost motion. They show what *has* been done, let you picture what *can* be done in your client's plans.

Here's what happened in a large insurance company after MOBILWALLS were installed:

- Office productivity increased 27%
- Delays and lost motion were cut 48%
- Time spent paying attention to distractions, and correcting errors, was reduced 38%
- The VMP MOBILWALL installation helped in adding as much to work output as could have been added by a 27% increase in employees and payroll expense.

Free folder. Get complete details by writing to Department AR6 for VMP's informative folder . . . detailed data on Ratio-Delay, comparisons of partitioning materials normally used, and other valuable facts.



MODERN STYLING . . . SPEEDY INSTALLATION!

VMP MOBILWALLS are smartly designed—ideal for office or factory. They fit perfectly, are expertly finished. Colors are restful and permanent. Surfaces never chip, warp, or crack—they wash clean easily. Skilled, dependable crews take but a few hours to install these partitions. Working out of nearby warehouses, they save time and money. And clients have the satisfaction of knowing MOBILWALLS are readily adaptable to future floor plan changes—they are easily and quickly moved.

Virginia Metal Products, inc.

ORANGE, VIRGINIA

Subsidiary of Chesapeake Industries, Inc.

For Greater Strength
Uniform Thickness and Color



The First Fiberglas and Nylon Reinforced Plastic Panel Ever Produced

FILON Gives You Greater Strength

After many months of research, FILON is now produced with Fiberglas and Nylon strands for greater strength and uniformity. Actual tests show that an 8 oz. per sq. ft. FILON panel can support over 200 lb. load per sq. ft. on a 4 ft. unsupported span. (U. S. Navy standards are only 100 lbs. per sq. ft.)

FILON is Produced by a Unique Method

FILON is produced by a fully automatic, electronically controlled process, in the world's largest and most modern plant in its field. This method makes possible continuous lengths as well as all standard sizes of panels. Lengths are limited only by convenience in handling.



FILON is Uniform in Thickness and Color

Better impregnation and dispersion of pigments make FILON more uniform in thickness and color. Every FILON panel bears a label stating *type, grade,* and *color* ... your assurance of getting the quality you specify.

Write for our New A.I.A. Folder containing detailed drawings and technical data. Distributors and Dealers coast to coast, Canada, and other foreign countries.

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270 Park Ave., New York 17, New York, PLaza 5-5758
228 North La Salle Street, Chicago 1, Illinois • State 2-7444

©

A|E PRODUCTS

(Continued from page 271)

ROOFING MEMBRANE

A *roofing membrane* designed to form a perfect bond between itself and waterproofing materials prevents buckling, ruptures and assures perfect roof drainage. *Impervilex*, claims the manufacturer, will not expand or contract to any greater degree than the waterproofing agents with which it is used. The bonding agent forces up through the open mesh of the membrane to join with the top coating and provide a tough, pliable, waterproof coat. *Chase Bag Co., 309 West Jackson Blvd., Chicago 6, Ill.*

ASPHALT TILE PLANKS

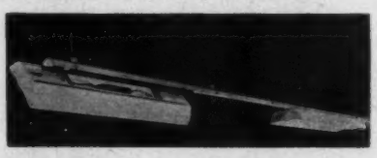


Asphalt tile planks 4 in. wide and 24 in. long, in $\frac{1}{8}$- and $\frac{3}{16}$-in. thicknesses, are produced in four woodtone colors: driftwood, oak, maple and walnut. Both the color and the veining go all the way through each plank. Cutting a few planks to different lengths will create a random pattern and eliminate waste material. *Tile-Tex, 1232 McKinley Ave., Chicago Heights, Ill.*

RAPID START LAMP BALLAST

A new ballast for the 96T12 rapid start lamp affords, according to the manufacturer, 30 per cent reduction in size and weight with an increase in lamp light output over existing ballasts. It weighs approximately 13 lb. *Advance Transformer Co., Chicago, Ill.*

INDUSTRIAL LIGHT FIXTURE



Flexible industrial fixture design is possible with Uni-Race channel sections which are joined to form an unbroken, open wireway of any desired length. Ortho-88 Industrial fixtures may be mounted without the use of tools in continuous runs or at spaced intervals. They can be moved from place to place as conditions demand without further electrical work and without interrupting service to other fixtures on the circuit. *Gibson Mfg. Co., 1919 Piedmont Circle N.E., Atlanta, Ga.*

(Continued on page 278)

NEW

B.F.Goodrich ASPHALT FLOOR TILE



SATISFIES YOUR "SPECS" FOR BEAUTY, ECONOMY AND SERVICE... NO MATTER WHERE!



Now, B. F. Goodrich makes its Asphalt Tile by a new electronically controlled production method. This process *automatically* produces a tile that has a glossy, smooth surface, intensified modern colors blended to give soft, uniform marbleization. It's easier to clean, harmonizes with any decor, and provides durability which means years of wear and economy.

B. F. Goodrich Asphalt Floor Tile is made with precision-cut edges and true corners for fast, neat installation — on, above or below grade.

Get the complete facts on B. F. Goodrich Asphalt Floor Tile today.

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Thalhimers Department Store, Richmond, Virginia

Architects:
Copeland, Novak & Associates, New York, N.Y.

Engineers and Builders:
The Austin Company, New York, N.Y.

Architectural Metal Fabricator-Erectors:
The Keller Aluminum Corporation, Philadelphia, Pa.

REYNOLDS ALUMINUM SERVICE TO ARCHITECTS

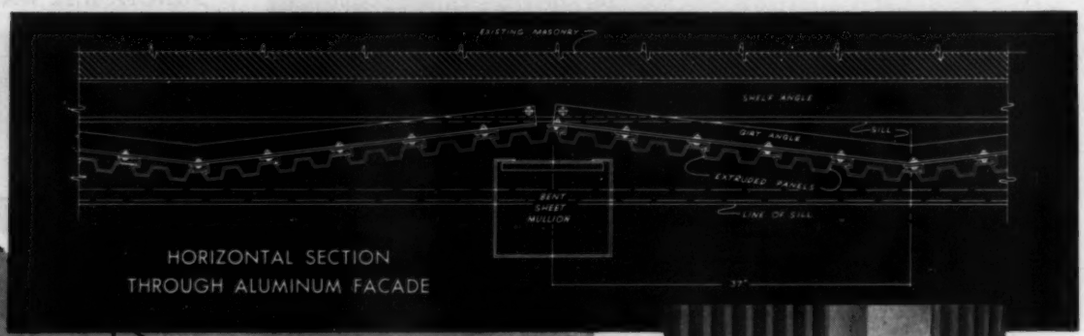
Reynolds Architect Service Representatives offer specialized assistance on aluminum design problems, standard mill product applications and commercially fabricated aluminum building products. They can help coordinate varied aluminum needs for procurement efficiency and economy. Address inquiries to Architect Service, **Reynolds Metals Company,** Louisville 1, Ky.

REYNOLDS

The transformation of Thalhimers is the first department store application of this interesting modernization method—distinguished by unusual architectural treatment in its extruded aluminum spandrels anodized grey.

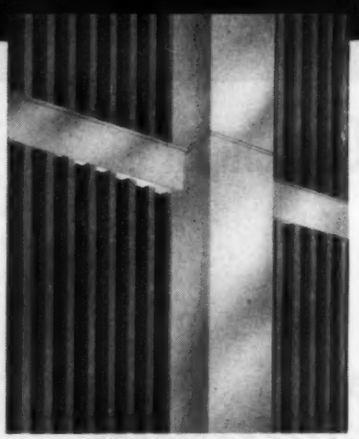
The principle is to enclose a group of buildings, both new and old, within a complete new shell—remodeling and air-conditioning the original interior.

Aluminum is ideal for this method. It makes possible a light, strong exterior shell that is easy to erect. Its freedom from rust and resistance to corrosion minimize maintenance. Its radiant heat reflectivity can be utilized to add insulation value.



HORIZONTAL SECTION
THROUGH ALUMINUM FACADE



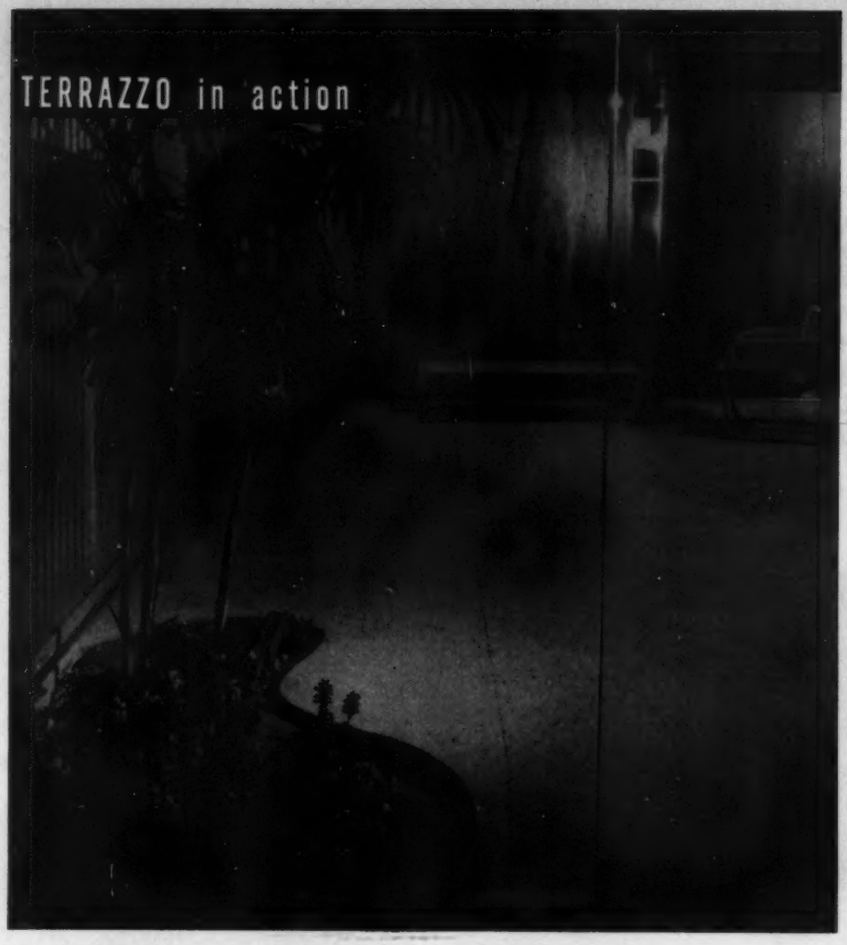


DETAIL OF SPANDREL,
MULLION AND PILASTER

Overlaid lines show how the Thalhimers buildings will be enclosed by an all-aluminum shell — all Reynolds Aluminum except for ground floor display windows. Spandrel panels are extruded aluminum, anodized grey. Horizontal mullions and pilasters are natural color aluminum formed sheet. Dotted lines indicate how the entire buildings at the left corner will be replaced by a new structure.

SEE "MISTER PEEPERS," starring Wally Cox, Sundays, NBC-TV Network.

ALUMINUM



Contemporary lobby in the Terrazzo tradition

A nationally known architect designed the contemporary lobby shown above, and specified Terrazzo. Apart from the obvious aesthetic success of the undertaking, there's this to be considered: No matter how extensive future traffic becomes, Terrazzo will withstand its ravages. Marble-hard Terrazzo is versatile as an architect's imagination, equally adaptable to contemporary or traditional settings. Its life expectancy equals or exceeds that of the building it graces.

Specify low-annual-cost Terrazzo—and build for beauty *and* performance. Free AIA Kit upon request. See our catalog in Sweet's.

SEE OUR CATALOG IN SWEET'S

THE NATIONAL TERRAZZO AND MOSAIC ASSOCIATION, INC.

404 SHERATON BUILDING
711 14th St., N.W. Washington 5, D. C.

Send free AIA Terrazzo Kit to

Name.....
Firm.....
Street Address.....
City.....Zone.....State.....

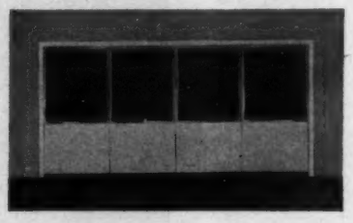
AE PRODUCTS

(Continued from page 271)

METALLIZING PROCESS

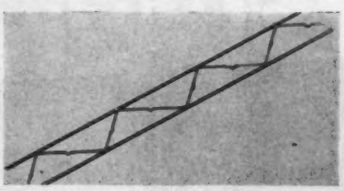
Metallic-coated Mylar (a Du Pont polyester film) can be applied to a variety of rigid-base materials and subsequently embossed for functional and decorative purposes. Of particular importance will be one-quarter of a millionth of an inch thick Mylar coated with two or three millionths of an inch thick aluminum for a tough, chemical-resistant thermal insulation and for wall coverings and moldings. *National Metallizing Corp., 420 Lexington Ave., New York 17, N. Y.*

FUNCTIONAL WARDROBES



A *school wardrobe* consists of four doors each operating on a center pivot. A push on the right side of the door will revolve and reverse it, exposing on the back of each door a hat and book rack with coat hooks below and a shelf at the bottom for rubbers, etc. The panels on the face of the door can be composition chalkboard or cork in light or dark green, tan or gray. The maximum radius of the doors is 19 in. The overall length of the unit is 13 ft $2\frac{5}{16}$ in. and the depth 1 ft $9\frac{1}{2}$ in. This space will accommodate 40 pupils. *New York Silicate Book Slate Co., Inc., 541 Lexington Ave., New York 22, N. Y.*

CAVITY WALL TIES



Dur-O-waL cavity wall reinforcing is formed with drip cross rods that serve as wall ties. It is manufactured from high tensile steel rods, deformed and electric butt-welded. It exceeds the general minimum codes of $\frac{3}{16}$-in. tie for each 3 sq ft of wall. *Cedar Rapids Block Co., 650 12th Ave, S.W., Cedar Rapids, Iowa.*

(Continued on page 282)



now...the water heater that revolutionized an industry **does it again...**

Permaglas®

America's leading glass-lined water heater!

Now... America's *first* stylized water heater—*in color*.

Plus... America's *first* "Eye-Hi" temperature control.

Plus... famous exclusive *HEETWALL* design—*and* higher inputs.

And... the *only* glass-lined tank proved by over 2,500,000 families.

All this in the *most accepted, most popular*, glass-lined water heater in the industry!

Through research ...a better way

A.O.Smith
CORPORATION

PERMAGLAS DIVISION • KANKAKEE, ILLINOIS

you see things better with this new

Glass

New *twin-ground* Parallel-O-Plate Glass is the most distortion-free plate glass ever made in America. Yet in most localities it *costs no more* than regular plate glass.

When you consider all of the things, every day, that you see through glass, you can see how important it is to insist on *Parallel-O-Plate* Glass.

For your windows, you can get Parallel-O-Plate from any Libbey·Owens·Ford Distributor or Dealer, listed under "Glass" in the yellow pages of phone books. For mirrors made of Parallel-O-Plate, see your department store, furniture store or mirror dealer. For additional information on *twin-ground* Parallel-O-Plate Glass, write to Dept. 7565, Libbey·Owens·Ford Glass Company, Toledo 3, Ohio.

L·O·F Parallel-O-Plate Glass

Finest plate glass made in America . . . only by

LIBBEY·OWENS·FORD *a Great Name in Glass*



LOOKING AT windows of Parallel-O-Plate Glass, you see how much its truer reflections mean to exterior appearance.



LOOKING IN through the Parallel-O-Plate Glass in a storefront, you hardly know the glass is there.

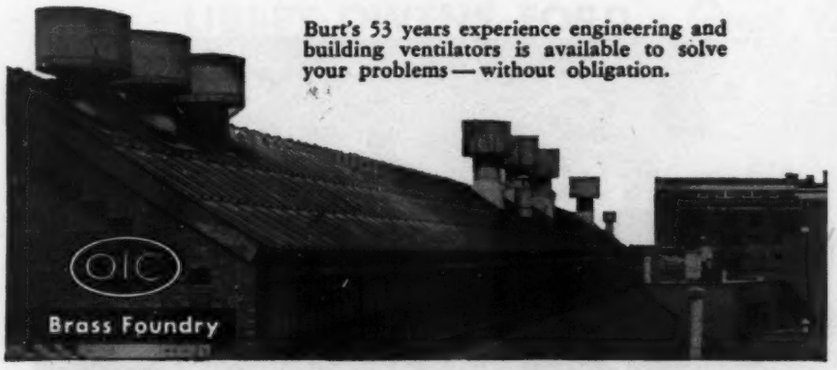
LOOKING OUT of your window wall of Parallel-O-Plate *Thermopane** Insulating Glass, you see the scene as it *is*. **





BURT VENTILATORS SOLVE LOCATION AND PRODUCTION PROBLEMS FOR OIC VALVES

The Ohio Injector Company, Wadsworth, Ohio — one of the nation's largest manufacturers of industrial valves — had two problems. Their plants are in a valley with almost no natural air movement. Their busy foundries create high heat, fumes and dust. Burt Ventilators solved both. Fifteen 30" Burt Free-Flow Ventilators on their Iron and Bronze Foundry and eleven 36" units on their Brass Foundry change the air every 3½ minutes. In other buildings, carefully spaced 60" Burt Free Exhaust Fan Ventilators provide fast, volume exhaust, changing the air every 4½ to 5 minutes. Workmen praise the system. Production has improved materially.



Burt's 53 years experience engineering and building ventilators is available to solve your problems — without obligation.



Send for **FREE** *Data Book!*

Write for Burt Data Book SPV-101-E. It supplies quick data on Burt's complete line of modern Roof Ventilators.

FAN & GRAVITY VENTILATORS • LOUVERS • SHEET METAL SPECIALTIES

The Burt Manufacturing Company

48 E. South St. Akron 11, Ohio

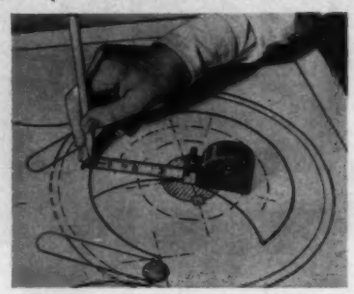
MEMBER POWER FAN MANUFACTURERS ASSOCIATION

AE PRODUCTS

(Continued from page 278)

DRAFTING ROOM EQUIPMENT

A *transparent plastic scalemaster* enables the architect to use multiple scales and always see what is underneath. The proper scale is always in full view. Convenient slotted apertures enable the user to scale a drawing with a minimum of trouble. *The C-Thru Ruler Co., 827 Windsor St., Hartford, Conn.*



A *beam compass rule* imported from Sweden makes possible the drawing of big circles and large radius arcs up to 12 ft in diameter. The tape is locked to the desired radius, the central axis point pressed in and the circle drawn with the same pen or pencil used for the rest of the drawing. The steel tape is calibrated down to 32nds. *The Walpole Co., Dept. 104, 419 Boylston St., Boston 16, Mass.*



An *automatic-feed drawing pen* contains a cartridge of India ink holding the equivalent of 55,000 in. of ruled lines. Pressure on the cap of the Rule-O-Matic activates a concealed feed tube which releases exactly the amount of ink needed to fill the nib. *Rule-O-Matic Corp., 38 East 57th St., New York 22, N. Y.*



A *slide rule pencil* which measures, calculates and writes, has a cursor, detachable straightedge, eraser and lead chamber and clip and has a slide bar construction with accurate parallax. *Device Development Co., 226 West 4th St., New York 14, N. Y.*

(Continued on page 286)

138 SAFE Showers at Boys Town



Over 850 boys here receive an Elementary and High School Education, vocational, moral and spiritual guidance under the able direction of Rt. Rev. Msgr. Nicholas H. Wegner.



Location: 12 miles West of Omaha, Neb. Is visited by thousands yearly

POWERS *Thermostatic*

WATER MIXERS Prevent Scalding and Reduce Waste of Hot and Cold Water



"After 4 years of heavy duty service" states Mr. Glenn Chappell, Chief Engineer "Powers shower regulators are still giving dependable service."

Simple, Durable Construction of POWERS mixers insures long life and minimum of maintenance.

Double Safety protects bathers from scalding or unexpected shots of hot or cold water caused by fluctuating **temperatures** and **pressure** changes in water supply lines. Shower temperature is *thermostatically* limited to 115° F. Failure of cold water supply instantly shuts off shower. It's the safest water mixer made.

For utmost comfort, safety and economy install Powers *thermostatic* water mixers. See our catalog in SWEET'S or write for Bulletin 365.

Architects and Engineers
LEO A. DALY COMPANY, Omaha, Neb.
Plumbing Contractor: WRAY SCOTT



Above: Typical homelike cottage for the boys.

Modern Field House provides the best facilities for physical training.

(b11)

Established in 1891 • **THE POWERS REGULATOR COMPANY** • SKOKIE, ILL. • Offices in Over 50 Cities

WHICH BUILDING MARKET

→ NONRESIDENTIAL ☐

→ RESIDENTIAL ☐

→ BOTH ☐

Whatever your sales objective these guideposts point the way to effective and economical building market sales . . .

❶ **97%** of the total dollar volume of all *nonresidential and other heavy building* reported by F.W. Dodge Corporation is architect-engineer planned.(1)

❷ There's an architect involved in **63%** of the total dollar volume of all *houses* reported by F. W. Dodge Corporation.(1)

❸ The lion's share of total architect-designed building is in the hands of the majority of architects who year after year design *both* nonresidential and residential building including . . .

* *close to one-half of all architect-designed nonresidential building*
* *over three-fifths of all architect-designed houses.*(2)

❹ One magazine, Architectural Record, delivers your advertising message to those architects and engineers who are *verifiably* responsible for . . .

* *94% of all architect-designed nonresidential building dollar volume.*
* *73% of all architect-designed residential building dollar volume.*(3)

These valuable aids to effective advertising and selling are available on request

(1) F. W. Dodge Corp. report of "Architect and Engineer Planned Work—1954"

(2) "Analysis of Architect Activity"

(3) Statewide checks of Architectural Record's subscriber galleys against architect activity as reported by F. W. Dodge Corp.

(4) Reader preference folder

ET DO YOU WANT TO SELL?

One magazine, Architectural Record, offers thriftiest and most efficient coverage of those architects and engineers whose steady specification of your product means sales in *both* the nonresidential and residential building markets.

HERE IS WHY...

EDITORIAL BALANCE. The Record's editorial content is continuously *timed* and *balanced* with the aid of *Dodge Reports* to be of maximum value to architects and engineers in terms of the work actually on their boards—nonresidential and residential, small and large.

EDITORIAL CONCENTRATION. Every editorial page—whether dealing with nonresidential or residential buildings (or both)—is edited *specifically* for architects and engineers. And the Record publishes more editorial pages than any other magazine in its field.

UNEQUALED READERSHIP. Architects and engineers have steadily voted Architectural Record their preferred magazine in 70 out of 77 readership studies SPONSORED BY BUILDING PRODUCT MANUFACTURERS AND ADVERTISING AGENCIES.(4)

MORE CIRCULATION WHERE IT IS MOST NEEDED. More architectural firms, more consulting engineering firms, more architects and engineers in commerce and industry will see your advertising message in Architectural Record than in any other architectural magazine.

These are the reasons why, again in 1955, Architectural Record is carrying more building product advertising directed to the architect and engineer-designed nonresidential and residential building market than any other architectural magazine.

F.W. DODGE CORPORATION

Architectural Record "Workbook of the active architect and engineer"

119 West 40th Street, New York 18, N.Y.



The ARCHITECT knows that ALGRIP

—the *only* abrasive rolled steel floor plate in the world—means permanent safety against slipping accidents in any industrial plant . . . even on wet, greasy or oil-splashed floors or ramps.

He also knows . . .

—that ALGRIP's depth-controlled abrasive penetration of its rolled steel base . . . assuring a safety surface self-renewed against the hardest wear . . . means greater . . . constant . . . and lasting . . . safety of your workers' lives.

—that ALGRIP is approved for safety by the Underwriters' Laboratories.

A.W. ALGRIP Abrasive Rolled Steel Floor Plate *puts your business on a firm footing.*

A.W. ALGRIP ABRASIVE ROLLED STEEL FLOOR PLATE

ALGRIP—*Approved for Safety by Underwriters' Laboratories.*

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.

Please send A.W. ALGRIP Booklet AL-2

Name_____

Title_____

Company_____

Address_____

City_____ Zone_____ State_____



Other products: A.W. SUPER-DIAMOND Rolled Steel Floor Plate—Plates —Sheets—Strip—(Alloy and Special Grades)

AE PRODUCTS

(Continued from page 282)

AUTOMATIC GARAGE DOORS

• *Lift-A-Dor automatic garage doors* now include key lock switch, hydraulic hose and radio control models. The key switch model is activated by insertion of a key into a switch mounted on a post alongside the driveway or on the wall of the house or the garage. The hydraulic hose model goes into operation when the car crosses a length of hose installed on the driveway. Radio models are activated by a tiny transmitter installed beneath the hood of the car. *Alliance Mfg. Co., Alliance, Ohio.*



• *Remote-control garage doors* are actuated by radio-frequency signals. The DV Autodor Control is designed to mount against garage ceiling rafters and includes an external light for illuminating the garage when the door is open. *Engineered Instruments, Inc., DV Controls Div., 865 Soto St., Hayward, Calif.*

REFRIGERATOR DOOR

An electrically-operated automatic refrigerator door, designed for all types of cold storage has fiber-glass insulation and rubber sealing gaskets for minimum temperature interchange. *Clark Door Co., 504 Hunterdon St., Newark, N. J.*

COLORED ALUMINUM

Colored aluminum having the glossy, opaque finish of baked enamel or lacquer is produced by a "Spectromatic" electrochemical process, which has the added advantage of being able to ensure identical colors in every cycle of manufacture. The color is impregnated into the surface of the metal instead of being applied as a coating, an important factor where thickness is critical. Aluminum treated by the Spectromatic process retains its original characteristics, such as flexibility, but, according to the manufacturer, acquires greater hardness, heat resistance and electrical resistance on its surface. *The Aluma Kraft Mfg. Co., 1330 No. Rock Hill Rd., St. Louis, Mo.*

(Continued on page 290)

Textolite®

plastic counter and wall surfacing

for distinguished designs

Wherever you want distinctiveness, dignity and durability in interiors, you can be sure of success with G-E Textolite plastic surfacing.

G-E Textolite comes in a tremendous variety of over 70 exciting patterns and colors . . . including the most authentic-looking wood grains and marble designs you've ever seen! And Textolite is unbelievably easy to maintain; it ignores hard wear, stays bright and new year after year . . . with just an occasional wipe with a damp cloth.

For more information, call your G-E Textolite distributor, refer to Sweets Architectural File $\frac{13A}{GE}$ or send in the coupon on this page.



Shown above on conference table and wall panels is the beautiful G-E Textolite Frosted Walnut pattern.

Progress Is Our Most Important Product

GENERAL ELECTRIC

General Electric Company
Section AR 6-5
P.O. Box 5911
Cleveland 1, Ohio

Please send me more information, and the new Textolite pattern folder for 1955 with easy installation instructions.

Name_____

Firm_____

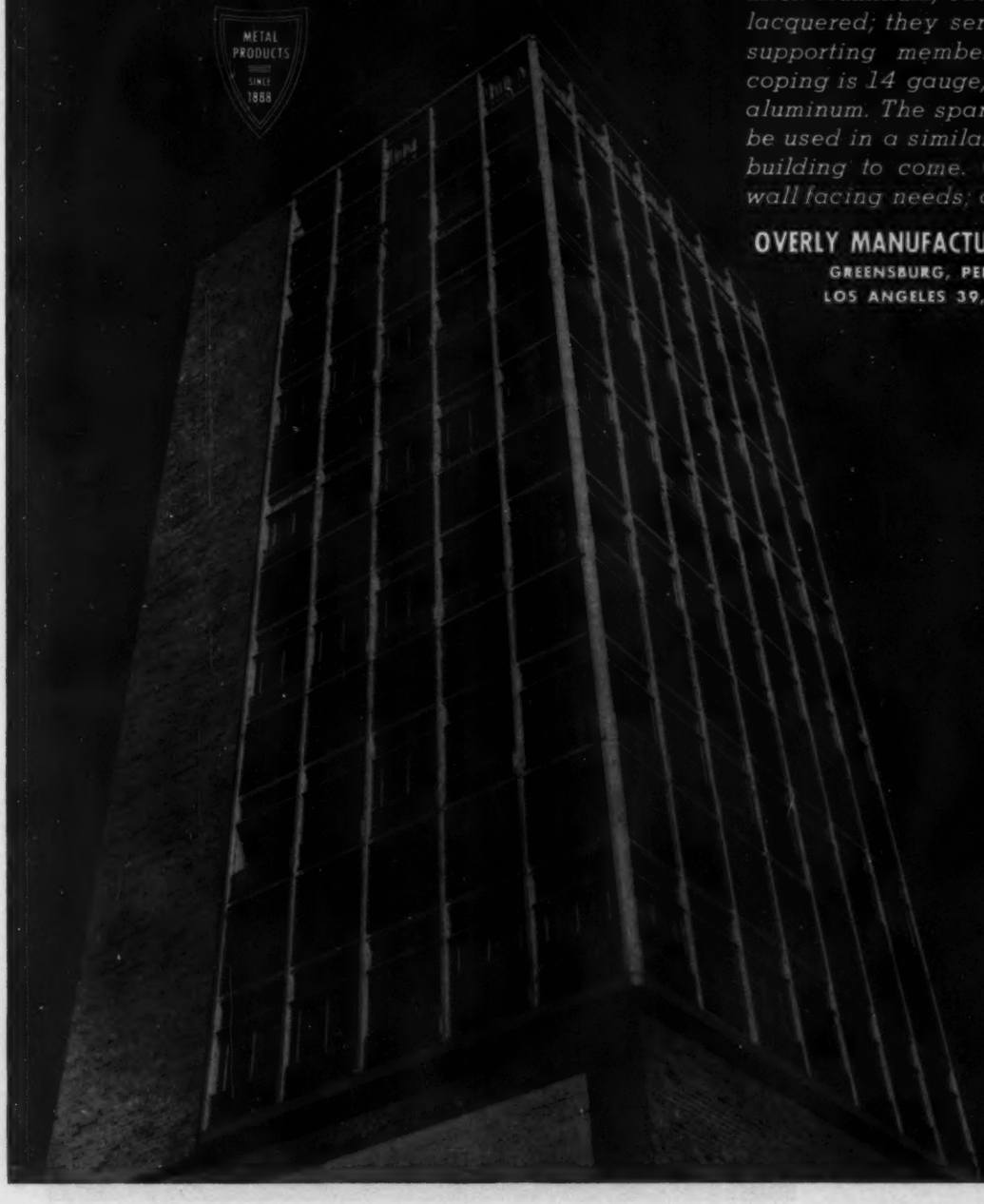
Address_____

City_____ Zone____ State_____

sandwich spandrels—
Columbus control tower . . .
crafted by Overly

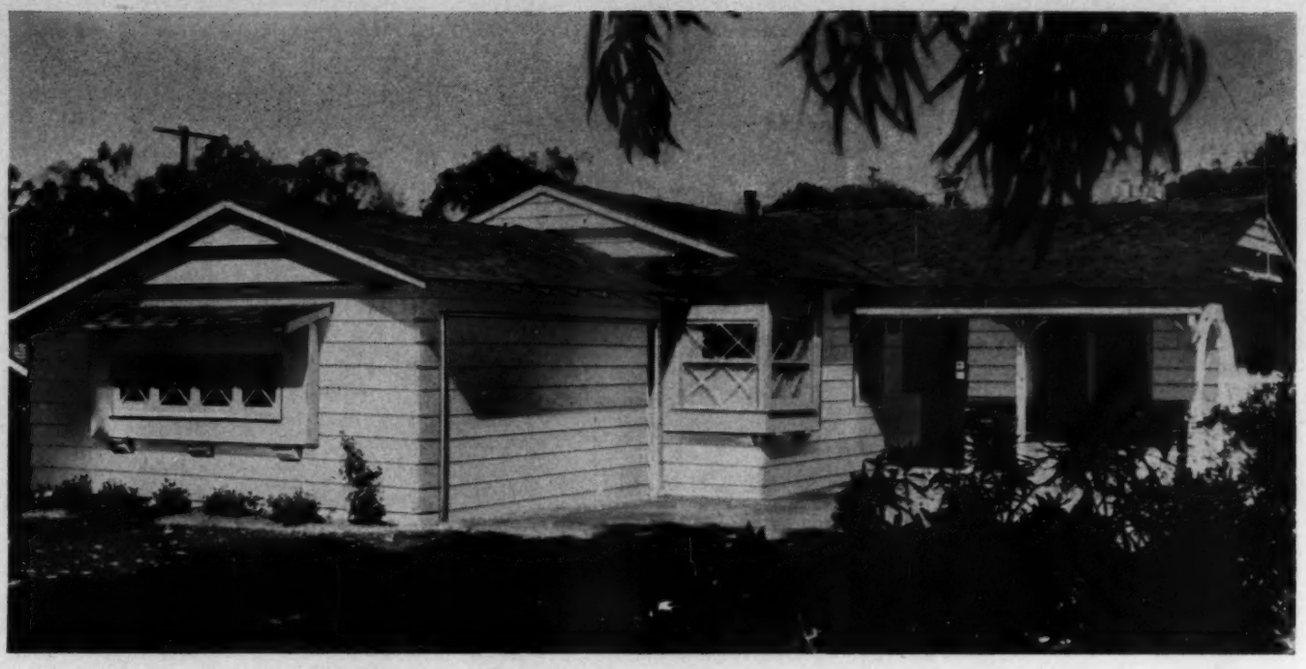
METAL PRODUCTS SINCE 1888

Port Columbus Airport, Columbus, Ohio, has aluminum faced tower designed by J. E. Greiner Company, consulting engineers, Baltimore, Maryland. Architects: James R. Edmunds, Baltimore. Overly fabricated and installed spandrels and mullions. Sandwich type spandrel construction consists of an aluminum face panel ⅛" thick, finished in No. 5 Alumilite gun metal gray; a 3" thick insulating filler; and a painted backing of 20 gauge galvanized steel that serves as interior wall surface. Overly vertical mullions, window sills and heads are ¼" thick aluminum, caustic etched and lacquered; they serve as structural supporting members. The Overly coping is 14 gauge, caustic etched aluminum. The spandrel design will be used in a similar administration building to come. ● Write us your wall facing needs, and let us quote.



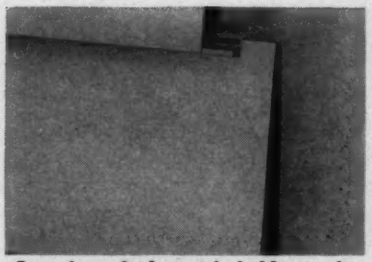
OVERLY MANUFACTURING COMPANY
GREENSBURG, PENNSYLVANIA
LOS ANGELES 39, CALIFORNIA

You've Never Seen Siding Like This!

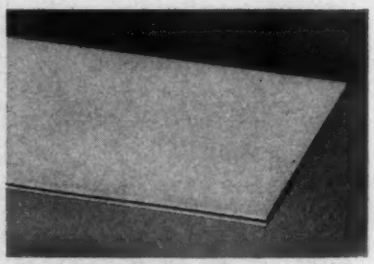


Masonite Offers Revolutionary New

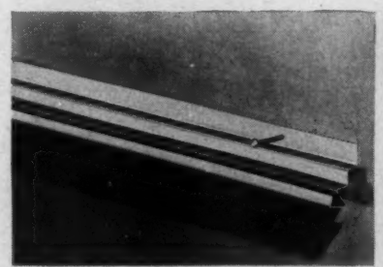
SHADOWVENT SIDING



Ingenious shadow strip holds panels in place permanently, creates eye-pleasing shadows.



Precision-cut groove fits onto strip, forming weather-lock joint. Cuts application time.



Vents on bottom edge of strip lets walls "breathe." Paint stays new-looking longer.



No visible nails. No puttying, "bleed-through" or working out of nails. Timesaver!

- **Permanently attractive—nails don't show!**
- **No dips or waves—every course true!**
- **Vented to minimize moisture problems!**

Now — the most nearly perfect siding ever made!

Masonite Shadowvent Siding incorporates the rugged strength, stability and weather resistance of Tempered Presdwood®, along with the advantages of an exciting new application system.

Specially designed aluminum strips create character-building shadows. Nailing on strips only...no wall disfigurations. Strip holds course above it in perfect alignment.

Builders report up to 33% saving in application labor with Shadowvent Siding. Send now for all the facts at no obligation.

Specify This Man  He Makes The Difference

MASONITE SHADOWVENT SIDING

TEMPERED PRESDWOOD PANELS FROM MASONITE® CORPORATION

(Not immediately available west of the Rockies)

MASONITE CORPORATION
Dept. AR-6, Box 777, Chicago 90, Ill.

Please tell me more about Shadowvent Siding.

Name.....

Firm.....

Address.....

Town.....Zone.....

County.....State.....

(Continued from page 286)

WATER HEATER CONTROLS

New *water heater controls*, precision-engineered, incorporate changes in style, design and color. Known as the "Aqua-Maid" line, they feature "wrap-around" styling, by Henry Dreyfuss, which permits the control to fit against the curved surface of the heater tank. The units are available in a choice of colors to match the trim on the tank and feature top and front reading gas-cock and temperature-setting dials and safety reset button located on the top and face. *Minneapolis-Honeywell Regulator Co., Minneapolis 8, Minn.*

SINKS

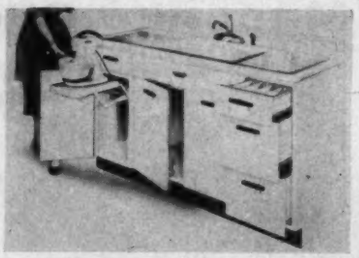


The *double drainboard sink* (Model V1-2554) shown above is one of many new models of kitchen and laundry sinks and lavatories finished in porcelain enamel and stainless steel manufactured by *Active Tool & Mfg. Co., Detroit, Mich.*



An *enameled cast-iron sink* designed especially for classroom use is equipped with a gooseneck spout for filling receptacles and a bubbler for drinking. The "Tech" measures 24 by 20 in. overall and has a 3-in. ledge around the front and sides. The basin is 15 in. long, 14 in. wide and 8 in. deep. *Kohler Co., Kohler, Wis.*

SINK CENTER



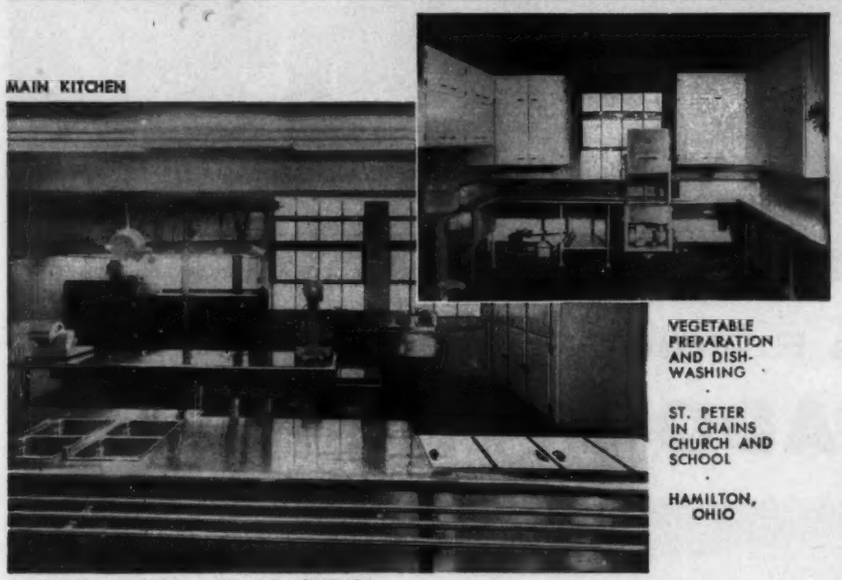
A *multi-purpose sink center* combines four features in one sink, as shown in the photo above. *Republic Steel Kitchens, Canton, Ohio.*

HOT-COLD WATER DISPENSERS



A *hot and cold water dispenser* is available in both pressure and bottle types. Both Oasis Hot 'n' Cold models have a hot water capacity of 5 qt and a recovery rate of from 40 to 60 cups an hour. *Ebco Mfg. Co., Columbus, Ohio.*

(Continued on page 294)



ARCHITECTS • MUELLER, HAIR AND HETTERICH

large or small · Van kitchens make better use of space

• Every pastor, school official or architect with a kitchen equipment problem will be interested in how St. Peter in Chains Church and School, their architects and Van turned an auditorium into kitchen, refectory and snack room that serves 225 school lunches daily and creates an active social center.

• The illustrations show the gleaming all-stainless cafeteria counter and equipment so easy to keep clean, so efficient and so positioned that *labor cost is kept at a minimum.*

• New kitchen or modernization, use *Van's century of experience.*

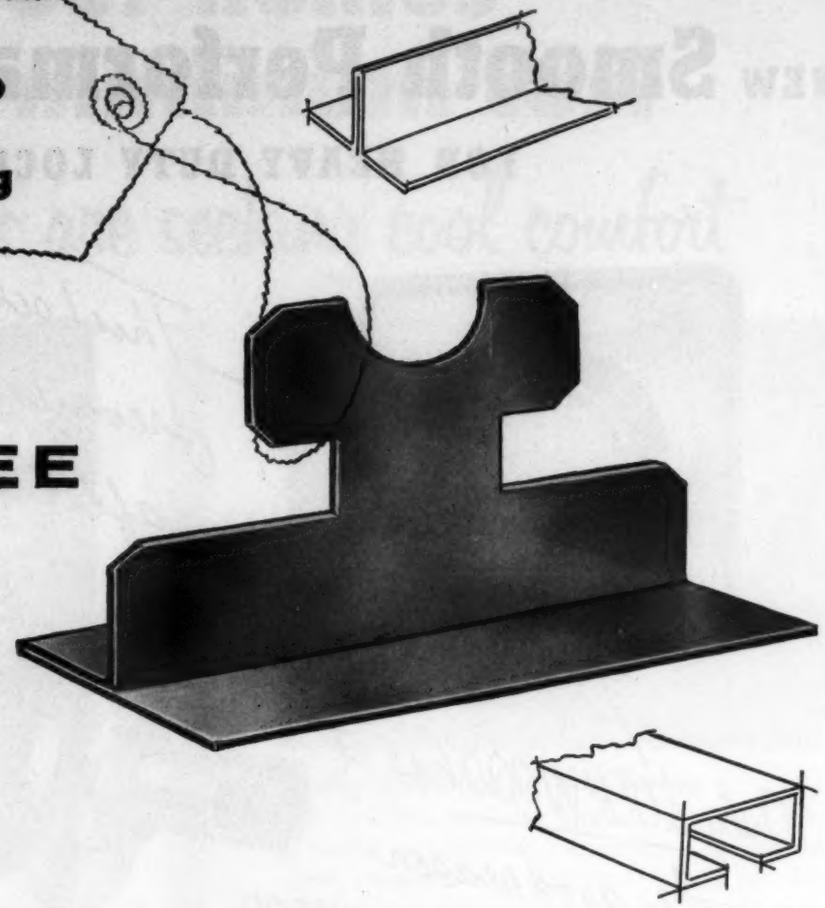
The John Van Range Co.

EQUIPMENT FOR THE PREPARATION AND SERVING OF FOOD

Branches in Principal Cities

429 CULVERT STREET **CINCINNATI 2, OHIO**

there's more to economy than a price tag



SECURITEE

Quality

Efficiency

Durability

Securitee offers the finest in mechanical suspension systems for the erection of acoustical tile.

There's top quality in every part—proper engineering, select materials and careful fabrication.

Securitee offers substantial savings in installation time and long trouble-free service—for economies that go far beyond the price tag.

See Sweets Architectural File or write direct for complete information.

*Securitee SYSTEMS

W. J. **HAERTEL** & CO.
832 W. Eastman St., Chicago 22, Ill.
DEPT. R

*T. M. REG. U. S. PAT. OFF.

Please send me, without obligation, your complete line of new brochures.

Name_____

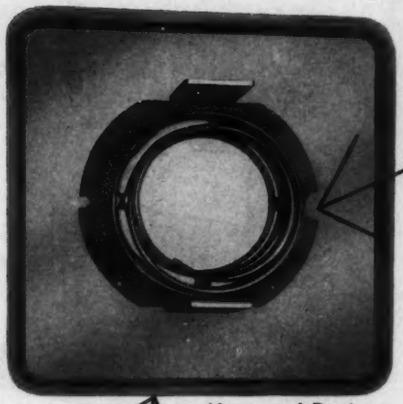
Company_____

Address_____

City_____ Zone____ State_____

NEW Smooth Performance INSURANCE

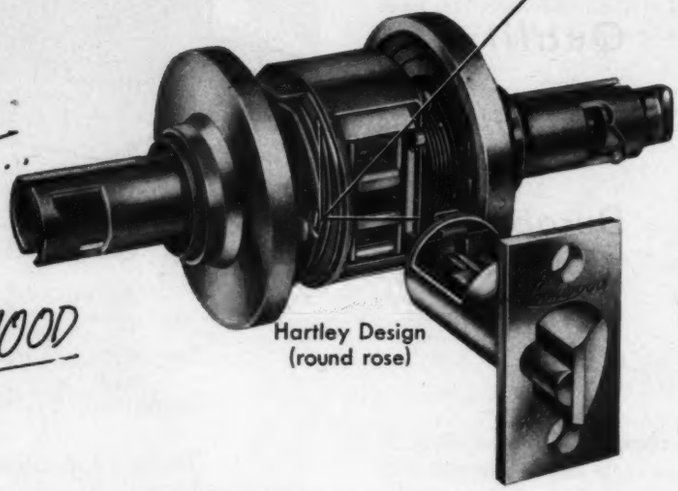
FOR HEAVY DUTY LOCKSETS



Hayward Design
(square rose)

This Lockwood feature prevents loosening of rose after installation

Only LOCKWOOD has it... another good reason for specifying LOCKWOOD



Hartley Design
(round rose)

Here's why Lockwood's positioning plate is so important: it prevents the outside rose from being turned and loosened by vibration or other accidental forces. It insures that the cylindrical locking mechanism remains centrally located in the door, keeping tailpiece of latch always properly engaged.

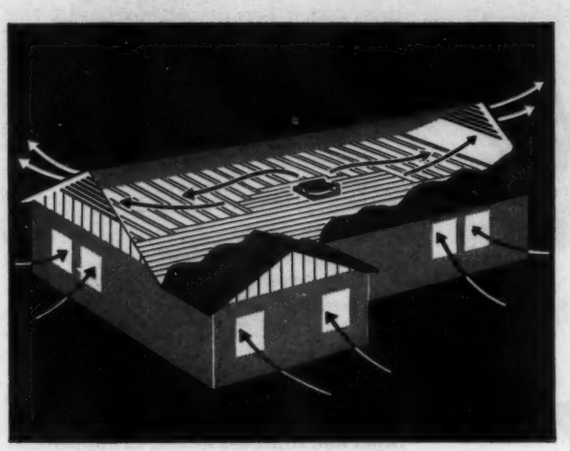
This positioning plate, combined with other Lockwood features, assures consistent, smooth operation of Lockwood heavy duty locksets.

Lockwood

LOCKWOOD HARDWARE MANUFACTURING CO.
Fitchburg, Massachusetts

Cool your homes at minimum cost

Home buyers are seeking cool comfort



Cool breezes in every room

This inexpensive home cooling system fills the entire home with refreshing air on hottest summer nights. It pulls in fresh outside breezes . . . drives out hot, sultry air. Room temperatures drop 10 to 20°, bringing cool comfort to occupants.



Easily installed in any home

The new Hunter is the simplest of all attic fans to install in any home, old or new. Designed for quiet, trouble-free performance, it will cool any home for many years. Certified air deliveries range from 5000 to 16000 cubic feet per minute.



Hunter's new automatic shutter

This modern ceiling shutter opens or closes automatically at the flip of a switch, or with automatic timer. Finished in neutral shade of baked enamel, it blends with all room colors. Shutter will fit narrow hallways, and is easily installed.

HUNTER

Package

ATTIC FAN

Mail coupon for 1955 Hunter Catalog and copy of "Cool Every Home with a Hunter Attic Fan."

Hunter Fan and Ventilating Co.
396 S. Front St., Memphis 2, Tenn.
Send complete data to:

NAME_____

ADDRESS_____

CITY_____ STATE_____

See our Catalog in Sweet's File

(Continued from page 290)

LABORATORY HOOD

Fume hoods for a wide range of laboratory uses are fabricated in single and double compartments of the double-hung sash type. The superstructure is a full double-wall construction and is fully lined on the inside with an asbestos composition material. The internal sloping roof area is of laminated safety glass with full area fluorescent lighting. Recessed remote-control service panels are furnished with the hoods, together with cupboard units for storage. *Metalab Equipment Corp., 214 Duffy Ave., Hicksville, N. Y.*

COLORED LAUNDRY TUBS

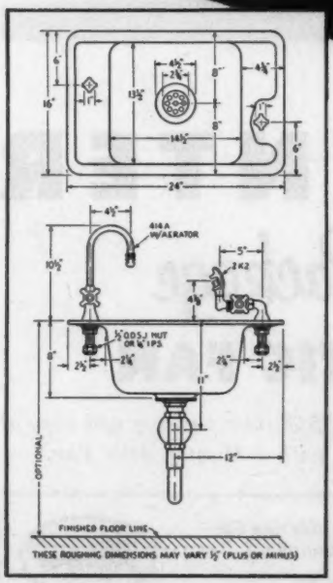
Colored fiber-glass laundry tubs are shock-resistant, stainproof, impervious to soaps and detergents and can't chip or craze. Available in mint, canary, coral and dawn, the tubs come in one-, two- and three-tub combinations for individual use or counter-top application. *The Selfridge Co., 5606 Euclid Ave., Cleveland 3, Ohio.*

Haws leads with another

NEW deck-type fountain

HAWS Model No. 2442
Size: 16"x24"
Pat. applied for





...for School Classrooms

...specifically designed to meet the demand for narrow deck-type installations! The new HAWS *Series 2400* offers all the outstanding features made popular by the first deck-type fountain to be produced—the HAWS Series No. 2000...and, overall dimensions are 16 by 24 inches.

SERIES No. 2400 is cast-iron constructed with acid resisting white enamel finish... stainless steel Hudee mounting rim prevents water running onto cabinet top and provides a water-tight bond...VANDAL PROOF socket flanges and fittings...chrome plated sink strainer with non-removable grid...and availability with any combination of HAWS Sanitary Faucets and Fixtures.

Write today *for illustrated Detail Sheet on complete line of HAWS Deck-Type Drinking Fountains*

HAWS DRINKING FAUCET CO.

1443 FOURTH STREET (Since 1909) BERKELEY 10, CALIFORNIA

FLOOR TILE

CorkAtile, which combines the appearance of cork and the advantages of asphalt, comes in three natural cork shades. It is available in standard tile sizes. *Hachmeister-Inc., P.O. Box 357, Pittsburgh 30, Pa.*

RECESSED LIGHTING FIXTURE

Two plaster aperture recessed lighting fixtures have no visible ceiling trim. The *Radix* model is a recessed universal focalight incorporating a simple adjustment which permits angulation of the beam over a 37-deg range. It can be rotated in a complete circle. The *Repair* model is a completely concealed focalight for medium and high ceilings. *Kurt Versen Co., Engelwood, N. J.*

CEILING AIR DIFFUSER



A *ceiling air diffuser* which provides a single, high-induction air stream for rapid and draftless mixing of supply and room air has a built-in anti-smudge cone which deflects incoming air from the adjacent ceiling and so protects against dirt rings when the diffuser is flush-mounted. A calibrated, sleeve-type damper regulates air volume. The Kno-Draft ABC diffuser, of spun and fabricated steel construction and aluminum lacquer finish, is available in 4- and 12-in. neck diameters. *Connor Engineering Corp., 500 Fifth Ave., New York.*

MINIATURE CAMERA



The *Minox miniature camera*, which can be carried in a coat pocket for on-the-spot pictures, measures 1 by 3 by 5/8 in. and has an F:3.5 15-mm focal-length lens, a focusing range from 8 in. to infinity, eleven shutter speeds from 1/2 to 1/1000 sec and built-in green and orange filters. It retails at $139.50 in chrome finish and $300 in gold plate. *Kling Photo Corp., 235 Fourth Ave., New York 3, N. Y.*



ST. LUKE'S HOSPITAL
NEW YORK, N. Y.

York & Sawyer—*Architects*

Vermilya-Brown Co., Inc.—*Builders*

Architectural Terra Cotta in a soft grayish green was specified for corridors, lobbies, vestibules and waiting room.

Color and cleanliness that patients appreciate!

Throughout many fine, new hospitals, you'll find Architectural Terra Cotta in soft, nerve-soothing colors, combined impressively with other materials. In every instance, from lobby to operating room, the ceramic-glazed surface of Architectural Terra Cotta requires only simple soap-and-water washings to remain sparkling clean, highly sanitary. Besides its advantages of unlimited colors, permanence, price and ease of maintenance, Architectural Terra Cotta, custom-made by Federal Seaboard, offers unrivaled plasticity of form and texture. Write us today for a complete file on the broad applications of modern Architectural Terra Cotta for buildings of all types.

Construction detail, data, color samples, estimates, advice on preliminary sketches, will be furnished promptly without charge on Architectural Terra Cotta and Ceramic Veneer.



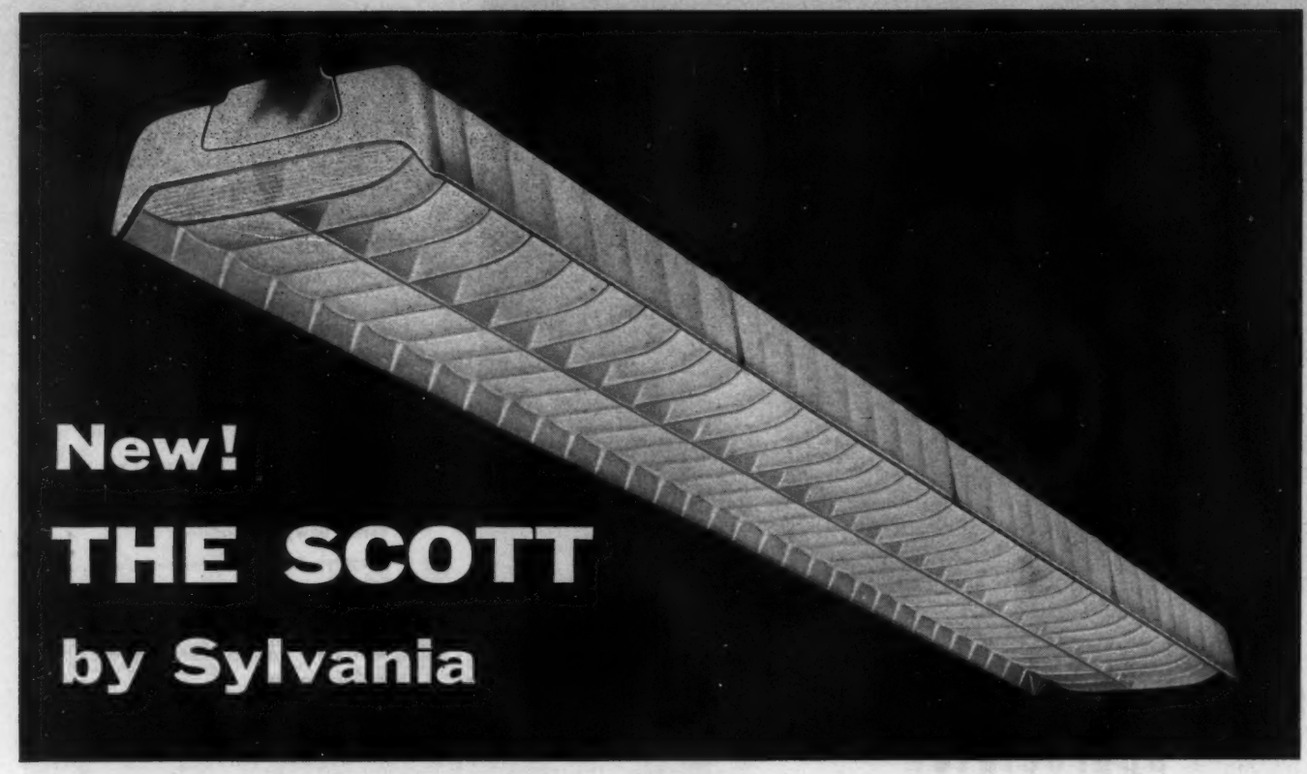


FEDERAL SEABOARD TERRA COTTA CORPORATION

10 East 40th Street, New York 16, N. Y.

PLANT AT PERTH AMBOY, NEW JERSEY

F S T C



Solves many school lighting problems

...at low cost!

INTRODUCING THE SCOTT, Sylvania's leader in an entirely new trend in lighting! Here's a new low-brightness fluorescent fixture with an all-luminous, all-plastic shielding, providing an over-all illumination efficiency of 89.8%.

Combine the efficiency of *The Scott* with its ease of installation and maintenance, and you have a fixture that goes a long way toward answering today's problems of rising costs. Check these unique features:

Top Efficiency, Low Brightness—89.8% efficiency provides more light with fewer fixtures. Low brightness substantially reduces glare and eyestrain.

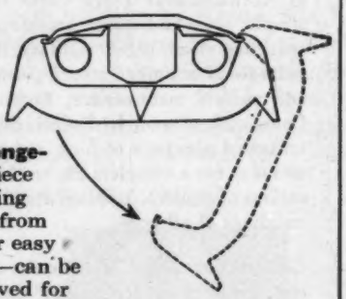
All-Luminous Appearance—All-plastic shielding diffuses comfortable light to all corners of a room.

Exciting Design Advance—Exclusive modern design, clean lines blend with up-to-date classroom décor.

Lightweight, Rigid Construction—Plastic shielding alleviates critical weight factor, holds straight-line characteristics.

For unusual effects, colored lamps may be used. For complete specifications and information, write for our Booklet F-612. *You incur no obligation.*

SYLVANIA ELECTRIC PRODUCTS, INC.
60 Boston St., Salem, Mass.



Convenient Hinging Arrangement. One-piece plastic shielding swings down from either side for easy maintenance—can be quickly removed for cleaning.

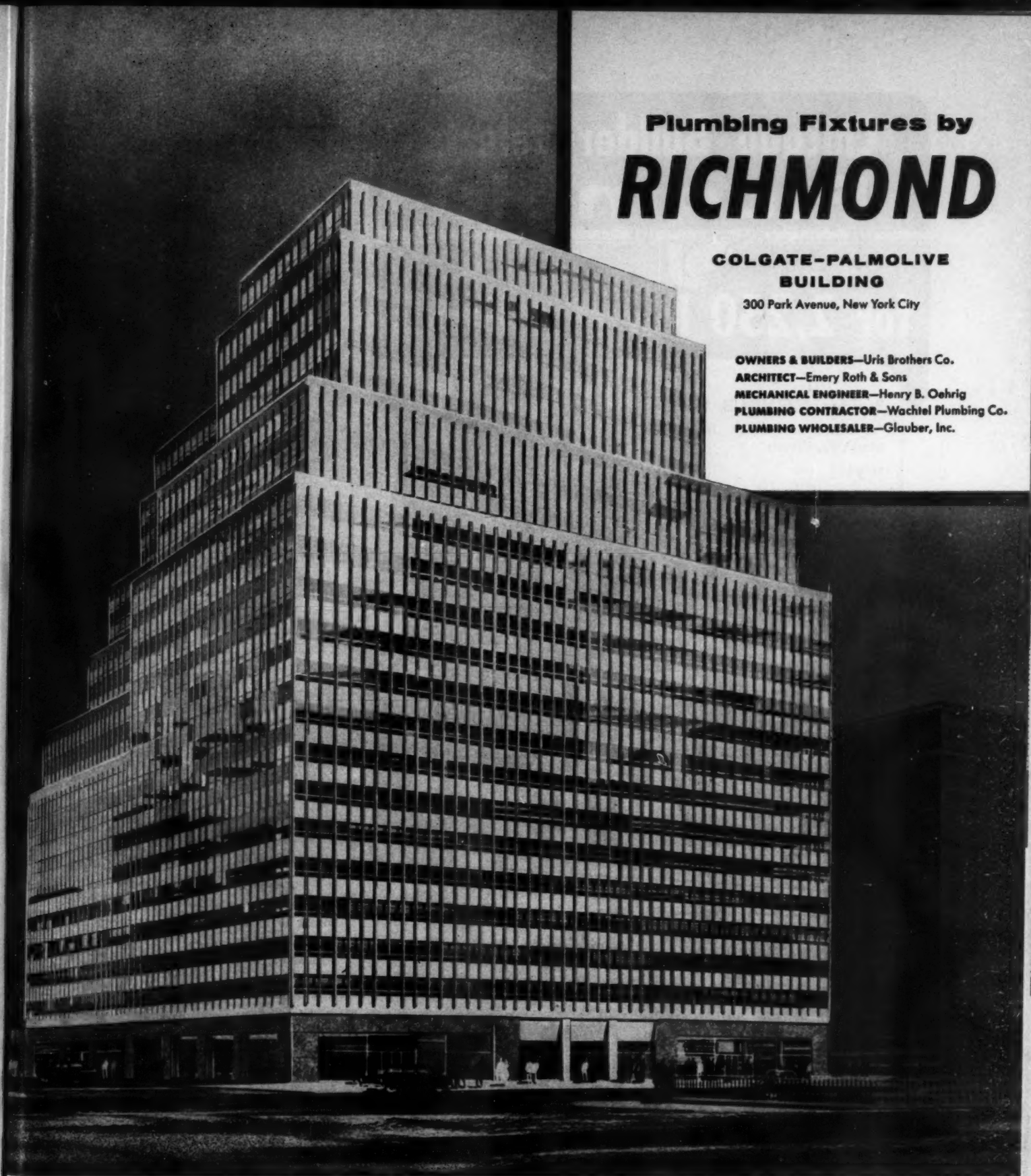
Specify these features . . . specify THE SCOTT

1. One-piece, all-plastic louver shielding.
2. Plastic shielding of high-temperature, destaticized polystyrene.
3. Minimum 35° lengthwise and 35° crosswise shielding.
4. Efficiency of 89.8% with an ICI distribution of 55% up and 45% down.
5. Shielding hinged or removed from either side.
6. Silver-plated lampholder contacts on rapid start fixtures.
7. Channel blanked from 18-gauge cold rolled steel with longitudinal forming.
8. All painted metal parts subjected to the patented #160 Bonderite Process *after* fabrication.

SYLVANIA®

...fastest growing name in sight

LIGHTING • RADIO • ELECTRONICS • TELEVISION • ATOMIC ENERGY



Plumbing Fixtures by

RICHMOND

COLGATE-PALMOLIVE BUILDING

300 Park Avenue, New York City

OWNERS & BUILDERS—Uris Brothers Co.
ARCHITECT—Emery Roth & Sons
MECHANICAL ENGINEER—Henry B. Oehrig
PLUMBING CONTRACTOR—Wachtel Plumbing Co.
PLUMBING WHOLESALER—Glauber, Inc.

RICHMOND FIXTURES FOR COLGATE-PALMOLIVE BUILDING





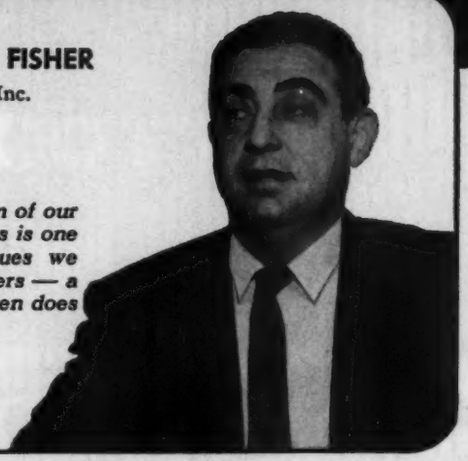


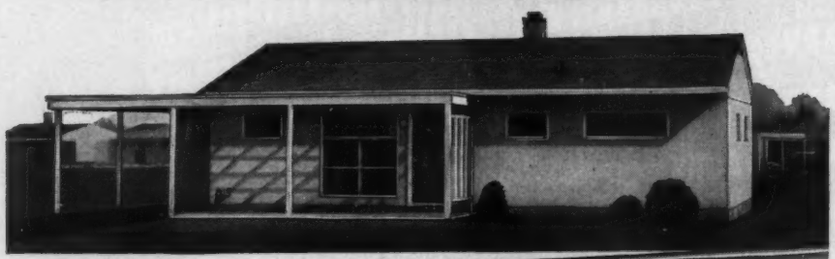
RICHMOND
RADIATOR COMPANY
16 Pearl Street, Metuchen, New Jersey
AFFILIATE OF REYNOLDS METALS COMPANY

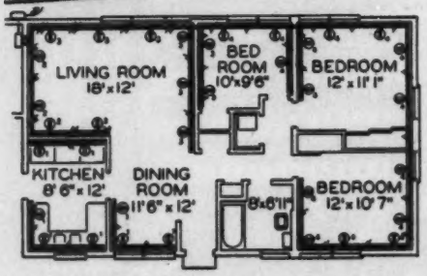
Chicago Builder selects Plugmold for 2,250 low cost homes

Builder MELVIN B. FISHER
President Fisher Homes, Inc.
Markham, Illinois
says:

"Plugmold in every room of our Markham Project Homes is one of the many plus values we have to give our customers — a value which can, and often does mean a sale."







The floor plan of the Fisher Markham home shows location of duplex Plugmold receptacles. No. 12 conductors give Plugmold wiring ample capacity for modern electrical devices.

Architects everywhere find PLUGMOLD Attracts Home Buyers

Fisher Homes, Inc. find that Plugmold is a sales stimulant in their new Markham, Illinois project, where it is being used to provide duplex electrical outlets every 5 feet in every room of their 2,250 six-room homes, priced at $11,990. Ed Tapp, Fisher Sales Manager, says: "7 out of 10 women prospects inspecting our model home ask about electrical outlets. We have the perfect answer for them."

Stocked by electrical wholesalers, installed by electrical contractors ...everywhere.

For Complete Information Write Dept. A6

The WIREMOLD Company
HARTFORD 10, CONNECTICUT

A/E LITERATURE

(Continued from page 220)

WINDOWS, DOORS, ENTRANCES

• Installation data and specifications of *sun control products* are contained in an 8-page illustrated catalog.

Store fronts are described and illustrated with photographs of typical installations and detail drawings in a 20-page brochure.

Descriptions and specifications of *entrances and entrance hardware* are given in a 16-page booklet which includes detail drawings and photographs of actual installations.

Aluminum *flush doors* are described in a 4-page leaflet which includes specifications and detail drawings. All from *The Kawneer Co., Niles, Mich.**

• Specifications and information about stainless steel *sink bowls*, scullery *sinks* and *Formica-on-steel counter* tops are contained in four individual, illustrated catalogs bound in a loose-leaf catalog. *Elkay Mfg. Co., 1874 S. 54th St., Chicago 50.**

ALUMINUM PRODUCTS

• *Alcoa Aluminum Industrial Building Products* includes weight and coverage tables, loading tables, typical details and installation procedures of industrial *roofing* and siding, industrial flat flashing stock, fasteners and preformed accessories. *Aluminum Co. of America, 1501 Alcoa Building, Pittsburgh 19, Pa.**

• Specifications and detail drawings of architectural aluminum products are given in a 202-page catalog from the *Reynolds Metal Co., 2500 S. Third St., Louisville, Ky.**

ELECTRICAL PRODUCTS

A 12-page specification guide covering "Scotch" brand electrical products describes applications, lists physical and electrical properties, and provides representative specifications and illustrations of the products. *Minnesota Mining & Mfg. Co., 900 Fauquier St., St. Paul 6, Minn.**

LETTERS FOR SIGNS

Reed Three-Dimensional Letters for Outstanding Signs gives dimensions and descriptions of aluminum letters for signs. 16 pp, illus. *Reed Aluminum Foundry Co., Rte. 1, Box 601, East Moline, Ill.*

(Continued on page 302)



The PROOF of a building's age is behind these doors!

Five seconds behind these doors, and you *know* your building's age!

Notice the plumbing fixtures. If they are off-the-floor . . . your building is new forever. If not . . . it is obsolete when the doors first open.

Off-the-floor fixtures installed today will never give away the age of your buildings. Year after year, they will continue to contribute to the desireability—and marketability—of your investment. They add spaciousness. They free washrooms of litter-traps and breeding grounds for bacteria. They do away with obstacles to easy cleaning and hospital-like sanitation.

In today's major buildings, more than 800,000 such fixtures are supported on the ZURN SYSTEM®. You should look into the reasons why. You will find, among other things, that Zurn-engineered, patented features simplify installation and alignment. The entire stress is on the Zurn fitting—not on the wall. And ZURN SYSTEMS never interfere with future alterations, but often make them easier.

Buildings age fast enough. Do not give yours a running start by designing washrooms that are obsolete when the doors first open.

Before planning your next building, be sure to write for the helpful new booklet, "Behind Closed Doors." It is your guide to modern, sanitary washroom decor. 110-1

J.A. ZURN MFG. CO.

PLUMBING DIVISION

ERIE, PA., U.S.A.



The ZURN ZERO ZONE® is created by mounting off-the-floor plumbing fixtures on behind-the-wall ZURN SYSTEMS. This permits the highest degree of rest room sanitation to be attained and maintained. All major plumbing manufactures make fixtures to fit the ZURN SYSTEM.

See our catalog in Sweet's Industrial Construction File, 13a.

COPYRIGHT 1958 — J. A. ZURN MFG. CO.



Beardsley Terrace Housing, Bridgeport, Conn. • Engineers: Frederick M. Hill and Paul D. Harrigan, New Haven.
Architects: Lindsay & Johnson, Bridgeport. • Heating Contractor: Bridgeport Pipe & Engineering Co., Bridgeport. • General Contractor: E & F Construction Co., Bridgeport.

Huge 1200-family housing development enjoys completely automatic weather-controlled steam heating

THROUGH SARCOTHERM COMPENSATED CONTROL SYSTEMS

CONSISTING of sixteen 8-story buildings, Beardsley Terrace Housing is another huge project where Sarcotherm Steam Heating Control Systems are giving uniform comfort under all weather conditions. As Mechanical Engineer Paul D. Harrigan writes, "Sarcotherm Controls . . . working perfectly through extreme part of Winter as well as in Spring . . . we are enthusiastic about their performance . . . the Housing Authority, the architects and we ourselves are entirely satisfied."

Sixteen Sarcotherm type W Weather-Compensated Control Systems serve Beardsley Terrace. Of the continuous, modulated flow design, they provide individual zone control for the steam heating of each building. Precisely engineered orifice plates assure the proper steam flow to each heating unit.

COMPLETE SARCOTHERM COOPERATION

Whenever *you* are planning a weather-modulated control system, you, too, can take advantage of the unusual service that Sarcotherm offers. This service cooperates in the preparation of working drawings and wiring diagrams for each job. It follows through with on-the-job help and supervision of installation. In fact, this cooperation with the architect, engineer and contractor is so complete that Sarcotherm assumes undivided responsibility for the complete control system, including zone controls, panels, radiator traps and other steam specialties.

Let Sarcotherm work with you on your next project. You'll find it pays. Write for further details. Sarcotherm Controls, Inc., Empire State Building, New York 1, N. Y.

NOTE THESE FEATURES OF SARCOTHERM CONTROLS

1. **Easy to install**
2. **Easy to maintain** — because of simplified construction, fewer parts.
3. **Easy to adjust** — to any desired setting.
4. **Engineered orificing** — assures even heat flow to all units from the start.
5. **Undivided responsibility** — by one maker, Sarcotherm, for the complete control system.

4003-B

Sarcotherm

An affiliate of SARCO COMPANY, INC.

WEATHER-COMPENSATED CONTROLS FOR **STEAM, HOT WATER AND RADIANT** *HEATING*



no visible latches, catches, bolts or screws

the new smithcraft troffer is

RECESSED LIGHTING AT ITS BEST

in clean, trim appearance . . . and in mechanics, too!

Twelve important features of the new Smithcraft Troffer illustrate the completeness of design development that went into this new outstanding recessed lighting. Important among the twelve features for architects and engineers is the fact that they can now create absolutely clean, trim, architectural lighting effects without the disturbing blemishes caused by exposed hinges, locks, fasteners or screws. The ceiling is uncluttered . . . the final lighting effect is crisp, modern and efficient.

The new line of Smithcraft Troffers is truly complete, offering troffers with or without integral trim flange, with the widest choice of shielding media and adaptable to virtually any ceiling construction.



Specify Smithcraft for superior appearance, unsurpassed lighting performance together with ease and economy of installation.

Complete details are offered on the new Smithcraft 12" wide troffers. This new Smithcraft Troffer book also gives complete information on the new Smithcraft line of 2-foot wide troffers — available with many types of shielding media and for many different types of ceiling construction.

1. No visible catches, latches, hinges,* bolts or screws.
2. Door frame containing glass, lens or plastic opens or closes by simple pressure upwards with the new exclusive Smithcraft Pressure-Catch. (Patents pending). To remove door-frame simply lift off without tools or loose parts.
3. In louvered units, louvers hinge from either side, close by simple pressure upwards, and are removed without tools or loose parts. (Patent #2,559,640)
4. Architecturally precise modules for exactly 12" openings — perfectly straight, trim, in-line rows, whether mounted individually or in continuous rows.
5. No light leaks.
6. Slimly-designed glass frame for better appearance and better efficiency.
7. Wide selection of shielding media, spot boxes, pattern lighting, etc., for flexibility of design.
8. Troffers are available with integral trim flange for finishing the ceiling opening, if required.
9. Adaptability to today's ceilings is virtually universal. Simple clips adapt troffer to all of today's most common ceilings; simple provision for adaptability to all others. The new Smithcraft Troffer-in-plaster frame method assures perfectly square openings.
10. From start to finish only tool required is a screwdriver.
11. No exact positioning required; maximum simple adjustability at every critical point, with the Smithcraft Yoke-Aligner Hanger (Patent #2,597,875, other patents pending)
12. Minimum number of parts and assembly on the job.

Smithcraft LIGHTING DIVISION CHELSEA 50 MASS. *America's finest recessed lighting*



Carol—Edna—Hazel . . . did *their* warnings provide THE TIME NEEDED . . . for EVERY safeguard—EVERY precaution?

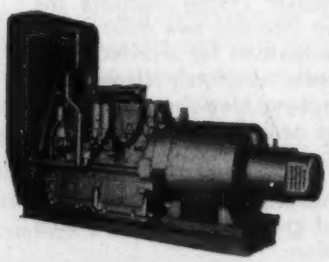
Temporary expediency *will not* guarantee essential lights and power.

That's why Architects are recommending the installation of the rugged, dependable automatic "standby power" of United States Motors Engine-Generators for schools, hospitals, prisons, banks, hotels, public buildings of every type.

In every size—for every requirement—United States Motors Corporation has built engine-generators for over 60 years to supply "continuous" or standby "emergency" power.

The complete line includes over 300 models from 300 watt hand-portables for home use, to 250 KW stationary Units for Municipalities.

Insist upon U.S. Motors standby "emergency" lights and power in all major installations. When specifications demand the unusual, United States Motors will build to your requirements. Facts, details, specifications listed in Sweet's File.



For additional information, write:

UNITED STATES MOTORS CORPORATION

351 Nebraska Street, Oshkosh, Wisconsin

AE LITERATURE

(Continued from page 298)

LUMBER PRODUCTS

• A *Western red cedar siding catalog* includes information on proper application, nailing practices and finishing information. A pocket-size siding estimator automatically computes the amount of bevel siding required to cover a certain wall area and includes other application data. *Red Cedar Lumber Assoc., 4403 White-Henry-Stuart Bldg., Seattle, Wash.*

AIR CLEANING EQUIPMENT

An 8-page, illustrated booklet describes the application of Trion air cleaning equipment in several of Philadelphia's office buildings, industrial plants, hospitals and homes. *Trion Inc., 1000 Island Ave., McKees Rocks, Pa.**

HEATING AND VENTILATING

• An 8-page bulletin outlines and illustrates how the *perimeter system* of warm air heating and ventilating can be adapted to commercial, industrial and public buildings. *Nat'l Warm Air Heating and Air Conditioning Assoc., 145 Public Sq., Cleveland 14, Ohio.*

• *Automatic controls* for heating, refrigeration and air conditioning are described in a 32-page illustrated catalog containing information on room thermostats, space thermostats, relays, pressure and hydraulic-action temperature controls. *White-Rodgers Electric Co., St. Louis 6, Mo.*

• *Steam heating systems* are discussed in a 16-page booklet that includes specifications as well as chapters on heating control maintenance, repairs and alterations. *Steam Heating Mfrs. Assoc., 450 E. Ohio, Chicago 11, Ill.*

• *Automatic controls* for heating and air conditioning, water heaters, ranges and dryers are described and illustrated in an 18-page catalog. *General Controls Co., Glendale, Calif.*

• A *rotary heat exchanger* for heating, venting and air conditioning systems is explained and illustrated in a 4-page folder available from *Thermowheel, Inc., P. O. Box 577, Far Rockaway, N. J.*

• *Dual duct air conditioning* for multistoried buildings is described in detail in an 80-page, illustrated book. *Buensod-Stacey, Inc., 60 E. 42nd St., New York 17, N. Y.*

(Continued on page 306)

YOU CAN BE SURE . . . WHEN YOU SPECIFY *Ironbound** MAPLE FLOORS

SURE OF *Ironbound's* QUALITY, SURE OF THE *MEN* WHO INSTALL IT

because . . . Only experienced and responsible firms are licensed to install Ironbound. They maintain a staff of trained engineers. Every installation is guaranteed by the installer and manufacturer.









HERE IS WHERE YOU CAN REACH THE IRONBOUND INSTALLER NEAREST YOU

Akron 8, Ohio
The Akron Floors Co.
177 W. Bowery St.

Birmingham, Ala.
E. P. Cuthrell Flooring Co.
213 First Ave., N.

Boston 2, Mass.
DiNatale Floors, Inc.
1100 Wm. T. Morrissey Blvd.

Boston 34, Mass.
National Floors Co.
113 Brighton Ave.

Canton 8, Ohio
Canton Floors, Inc.
5032 Tuscarawas St., W.

Chicago 41, Ill.
Chas. H. Anderson Floors, Inc.
3869 Milwaukee Ave.

Chicago 51, Ill.
Austin Flooring Co.
5510 W. Chicago Ave.

Cincinnati 26, Ohio
Cincinnati Floor Co.
Eastern & Linwood Aves.

Cleveland 9, Ohio
The Ironbound Co. of Cleveland
1110 Brookpark Road

Dallas 8, Texas
Trinity Floor Company
723 E. 9th St.

Decatur, Ga.
Matthews Flooring Co.
Box 444

Denver, Col.
Reeves-Ryan & Co.
701 South Logan

Detroit 38, Mich.
Whitcomb-Bauer Flooring, Inc.
10301 Lyndon Ave.

Kansas City 14, Mo.
Chas. H. Anderson Floors, Inc.
7929 Wornall Road

Los Angeles 6, Cal.
A. B. Rice Co.
Pico Heights Station,
P.O. Box 20726

Miami 42, Fla. (North Florida)
Griffin Floor Covering, Inc.
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Rowell-Southern Flooring, Inc.
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Shannon Floor Company
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Minneapolis 19, Minn.
Chas. H. Anderson Floors, Inc.
5940 Nicollet Ave. S.

Montreal, P.Q.
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5415 Delorimier Ave.

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Storm Flooring Co., Inc.
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Federal Hardwood Floor Co.
1503 N. Stillman St.

Pittsburgh 19, Pa.
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Queen City Floor Company
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Spokane, Wash.
Southern Hardwood Company
P.O. Box 55

Toronto 3, Ont.
Northern Flooring Co.
70 Brownville Ave.

*T.M. Reg. U.S. Pat. Off.

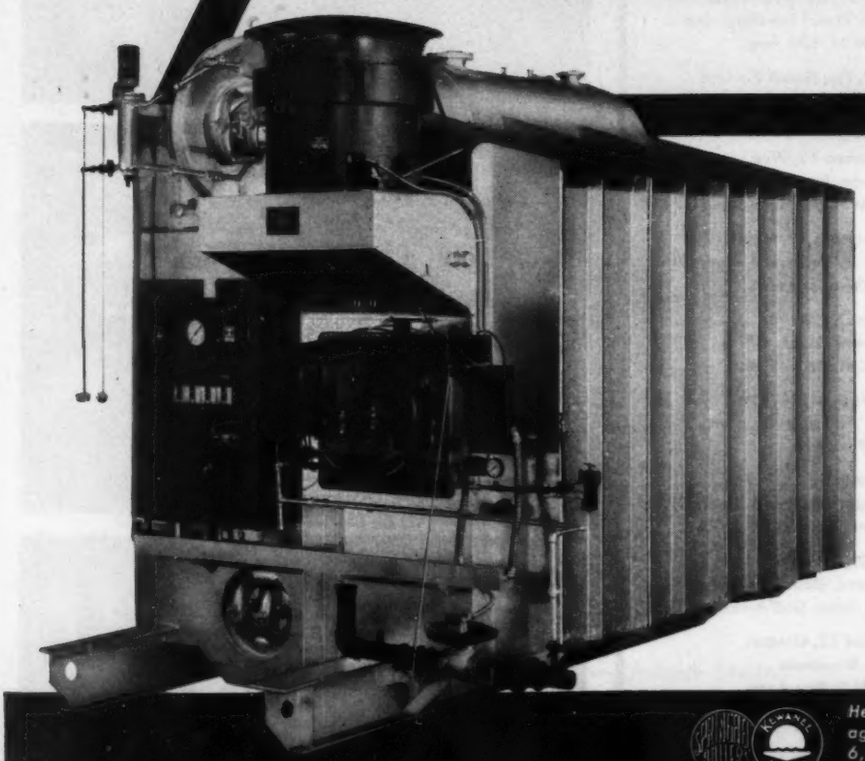
Ironbound now available with ——— VPMR. Ask about it!

AUTHORIZED IRONBOUND INSTALLERS ASSURE EXPERIENCE, GUARANTEE, SERVICE

Announcing one of the most significant additions to our product line . . .

KEWANEE - SPRINGFIELD

water-tube package generator



Here it is—Kewanee-Springfield Water-Tube Package Generator available in 14 standard sizes—6,000 to 45,000 pounds of steam per hour, or equivalent in high temperature—high pressure hot water.

Now from one source Kewanee offers you the broadest selection of boilers in the U.S.A.

When a new member is added to the family of products at Kewanee you may be sure much thought preceded such a move . . . thought of how you could better be served.

So with years of research and practical field experience behind us, we present the Kewanee-Springfield Water-Tube Package Generator. Manufactured by the Springfield Boiler Company and marketed coast-to-coast by Kewanee, it means from 1 source Kewanee now brings you the broadest selection of boilers in the U.S.A.

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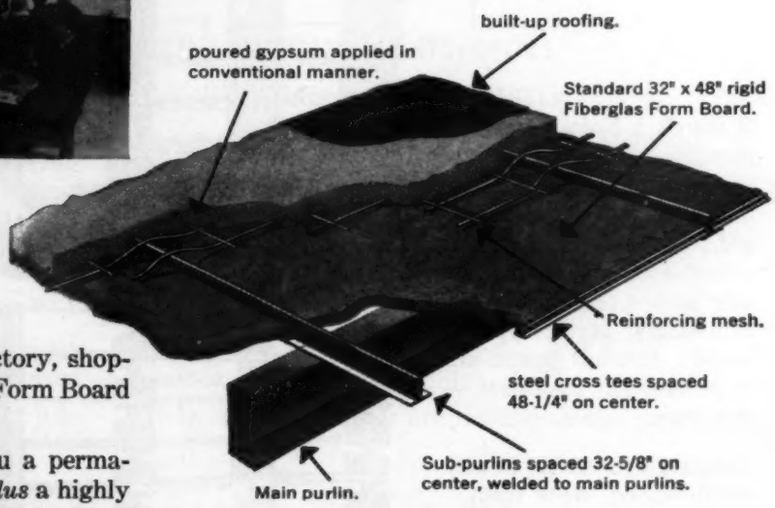
two big extras at one low price!



In a Class by itself: fire-safe, inorganic Fiberglas Acoustical Form Board with gypsum concrete keeps light structures snug, safe, quiet—eliminates cost of ordinary acoustical ceiling. Has N. R. C. of .75.

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A highly efficient insulation



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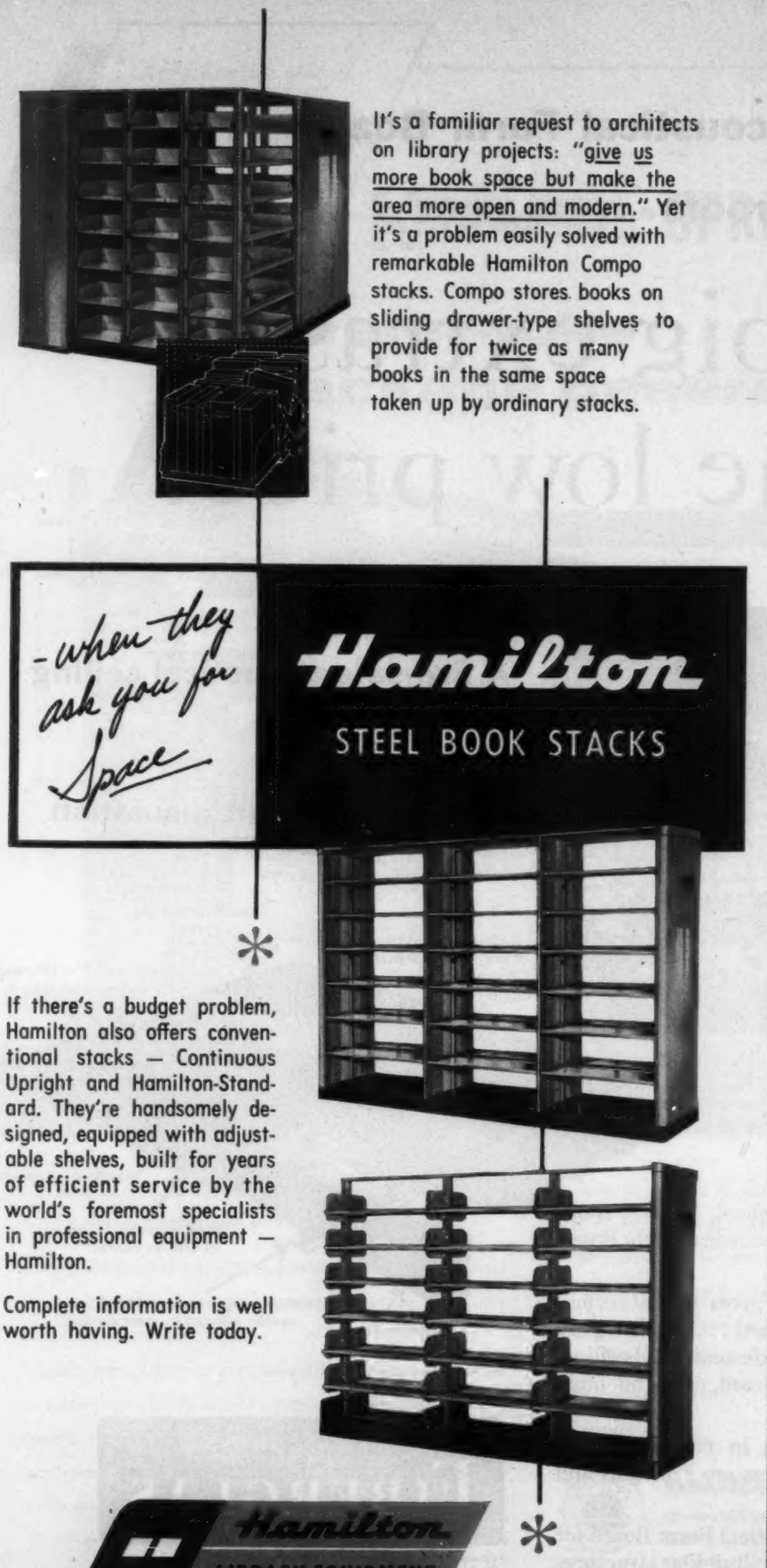
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AE LITERATURE

(Continued from page 302)

AIR DIFFUSERS

• Three 4-page, illustrated catalogs describe air control diffusers and grilles:

Catalog No. ECCO-103 gives information about ceiling air supply outlets designed for evaporative cooling systems; also those furnished with multi-louvers to balance system or for complete shut-off.

Catalog No. FB-104 covers facts about the FBG-5 Flexi-Blade line of forced air heating registers and grilles.

Catalog No. VC-105 includes information about the opposed blade damper series, the air volume control series and the multi-volume damper series. *Air-Factors, Inc., Monrovia, Calif.*

WATER HEATERS AND BOILERS

• A complete line of *water heaters* and *heating boilers* are listed in a looseleaf catalog offering specifications and trade prices. *Portmar Boiler Co., 193 7th St., Brooklyn 15, N. Y.*

• Suggested *boiler room layout* and dimensions are included in a 4-page illustrated brochure covering the LR and CB models of self-contained boilers. *Cleaver-Brooks Co., 326 E. Keefe Ave., Milwaukee 12, Wis.**

• High- and low-pressure *steel boilers* for commercial, industrial and residential use, as well as water heating products are described with charts and illustrations in a 32-page catalog from the *Kewanee-Ross Corp., Kewanee, Ill.**

LITERATURE REQUESTED

The following individuals and firms request manufacturers' literature:

Donald L. Allison, Architect, 325 Park Avenue, Auburn, Wash.

Lucas E. Bannon and Daniel P. Antinozzi, Architects, 2503 Main St., Stratford, Conn.

Engineer G. Gemo, Via Pasini 10, Vicenza, Italy, wishes to receive bulletins containing technical information.

George M. Komar, P.E. Ls., 400 W. 236th St., Riverdale, N. Y.

Cataldo and Vikre, Architects, 36 Parker Bldg., 434 State St., Schenectady, N. Y.

Frank L. Reese, Student, 1209 4th St. E., Minneapolis 14, Minn.

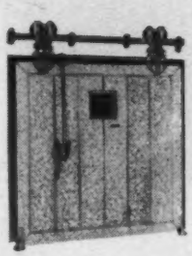
Robert L. Rowland, Architect, 633 Pine St., Green Bay, Wisc.

Benjamin Stein, Architect, 215 College St., Burlington, Vt.

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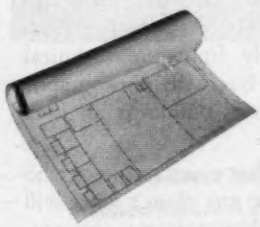
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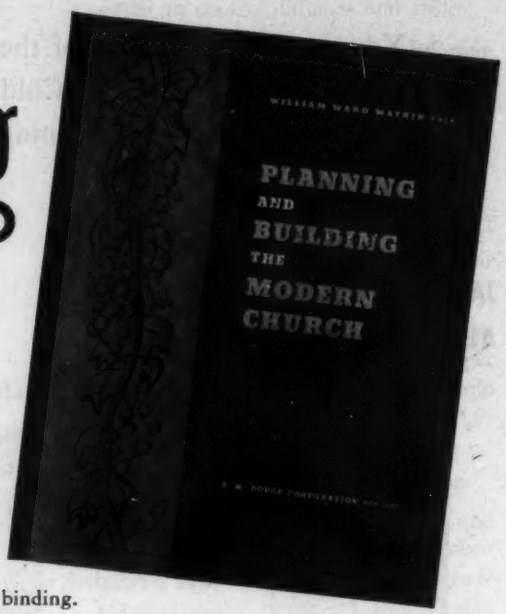
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The "Heart of the Church"

The chancel, often referred to as the "heart of the church," should represent the fulfillment of the church's meaning. The author, however, feels strongly that one great weakness in the American church building has been the lack of clear definition and corresponding clarity of expression in the chancels of our churches. He explains how this serious shortcoming can be avoided through the use of proper contrasts, selection of material; position, height and other methods of enrichment.

"*Planning and Building the Modern Church*" also includes detailed information on the church school, interior design, windows, lighting, heating, furnishings. It is delightfully illustrated, not only from the technical point of view, but with photographs of famous church buildings all over the country.

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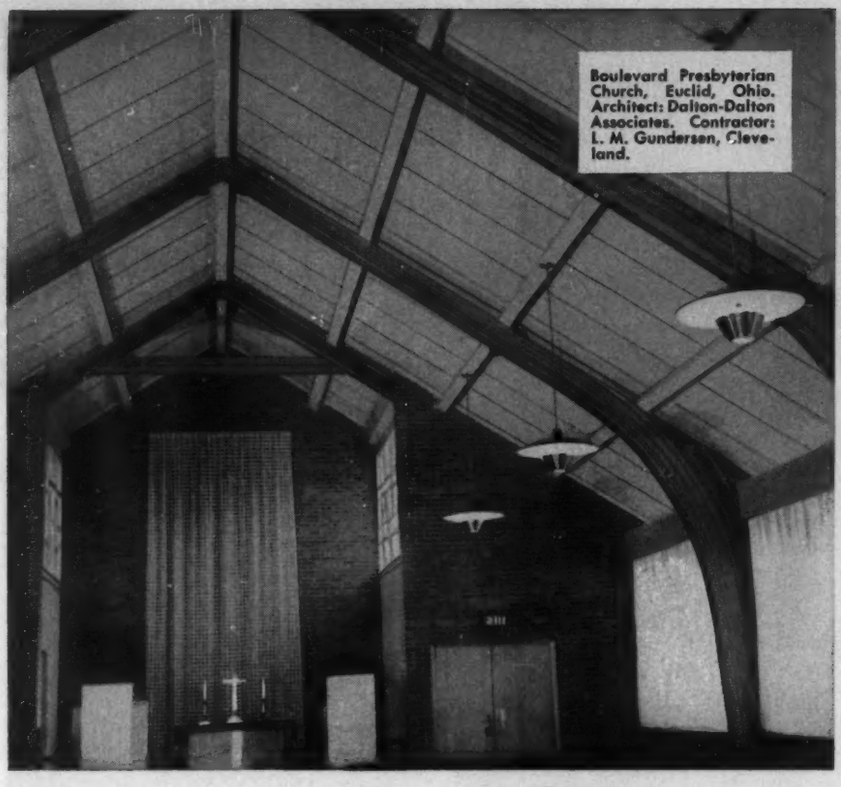
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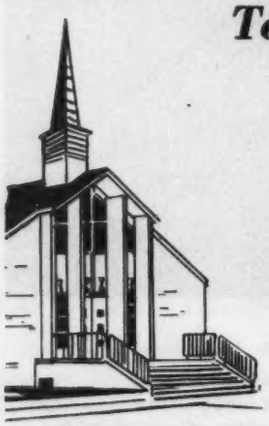
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THE RECORD REPORTS

WASHINGTON TOPICS

(*Continued from page 38*)

in outstanding advances plus any undisbursed balances in the fund.

This money is loaned out interest-free by CFA to states and their political subdivisions to cover the cost of engineering and architectural surveys, designs, plans, working drawings, specifications, or other action preliminary to the construction of public works.

Making the advances does not commit the Congress in any way to assist in financing actual construction of the projects. And all jobs planned with the money must conform to an overall state, local, or regional plan approved by a competent authority.

The newly proposed amendments would retain the provision that local public agencies must agree to complete the plan preparation so financed promptly and to repay advances when the construction is begun. They would add the provision, however, that the public agency repay proportionate amounts of the advances when only a portion of the construction of any planned public works project is undertaken.

(Housing is not included in public works as defined in the law.)

Typical projects covered are water works, sewage installations, municipal buildings, roads and streets, hospitals, schools, airports, recreational facilities.

NAVY ASKS $208 MILLION FOR RESERVE FACILITIES

Navy's reserve facilities construction program has been lagging due to delays in land acquisition and contract changes. In the two fiscal years 1954 and 1955 $45 million was appropriated by Congress for construction of 88 projects. By January 1, 1955, obligations of $13,371,983 had been incurred on 45 of the projects. Of the 43 not yet under contract early this year, contracts were expected to be awarded on 30 by mid-1955. The awards were to total $12,967,611. Navy hopes to award 11 of the remaining 13 projects (involving $11,006,919) during fiscal 1956 beginning July 1.

A long-range construction program extending through fiscal 1960 now has been announced for the Navy's reserve facilities. This calls for erection of 31 projects for the air arm at a total cost of $148,987,000 to provide for 150,000 offi-

(*Continued on page 312*)

BARBER COLMAN

uni-flo Engineered Air Distribution

High velocity for space-saving air distribution

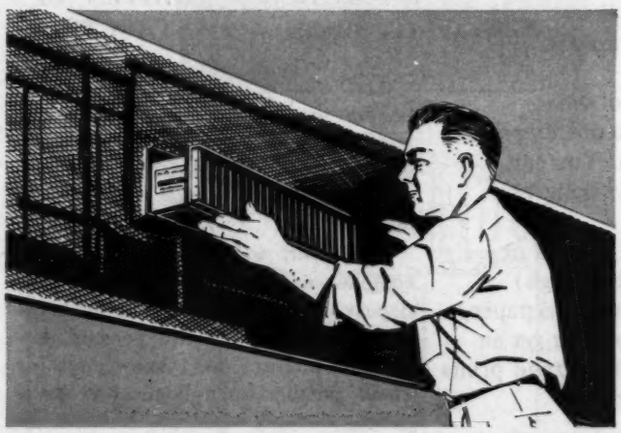
Contemporary design of the new Texas Eastern Transmission Corporation office building contributes to the beauty of the Shreveport, Louisiana skyline. This modern 14-story building is the home office of an organization which, in less than a decade, has become one of the major natural gas transmission companies in the country. Individual room fan coil units, using chilled and hot water, provide year-round air conditioning. Outside air for ventilation is supplied through a space-saving high velocity system.



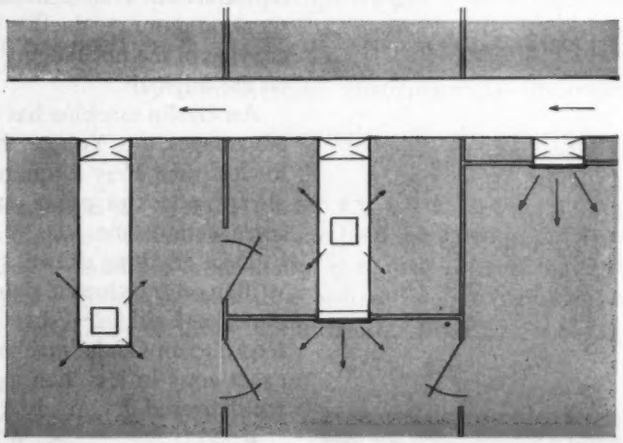
Attractive appearance of the Barber-Colman air distribution equipment appealed to the architect. Uni-Flo Sidewall Diffusers provide efficient distribution of the air, free from drafts and disturbing noise. Each diffuser is individually adjustable for simplified balancing of the system.



Texas Eastern Transmission Corporation Office Building, Shreveport. *Architects:* NEILD-SOMDAL-ASSOCIATES, Shreveport. *Consulting Engineers:* CARY B. GAMBLE & ASSOCIATES, New Orleans. *General Contractor:* J. A. JONES CONSTRUCTION CO., Shreveport. *Mechanical Contractors:* HUFFMAN-WOLFE SOUTHERN CORP., Atlanta.



Uni-Flo Air Valve can be installed directly behind the grille to reduce high velocity air to conventional velocity for distribution. Air valve is adjustable through grille opening.



Flexibility of Uni-Flo Air Valve permits installation at junction of high velocity trunk ducts with conventional velocity branch ducts to supply several diffusers.

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THE RECORD REPORTS
WASHINGTON TOPICS

(*Continued from page 310*)

cers and 33,000 enlisted men. Facilities for surface units in this longer program would number 332, plus 186 electronics facilities. Cost would be $43,859,216 and the buildings would house 17,100 officers and 151,000 enlisted men.

The long-range projections also call for 234 separate facilities for the Marine Corps costing $15,060,040, and accommodating 2804 officers and 52,420 enlisted men.

Programmed through fiscal 1956 are 28 projects for the air arm, 320 naval reserve training centers and 186 electronic installations for surface units, and all the 234 facilities for the Marine Corps.

Congress has been asked by the Defense Department to permit a permanent acquisition program. This would be done by eliminating both the time and money limitations now imposed in the authorizing legislation. Presently the program is limited to five years and will terminate with the end of fiscal year 1956 if Congress does not amend the law.

VA ACTS TO TIGHTEN UP ON SHODDY CONSTRUCTION

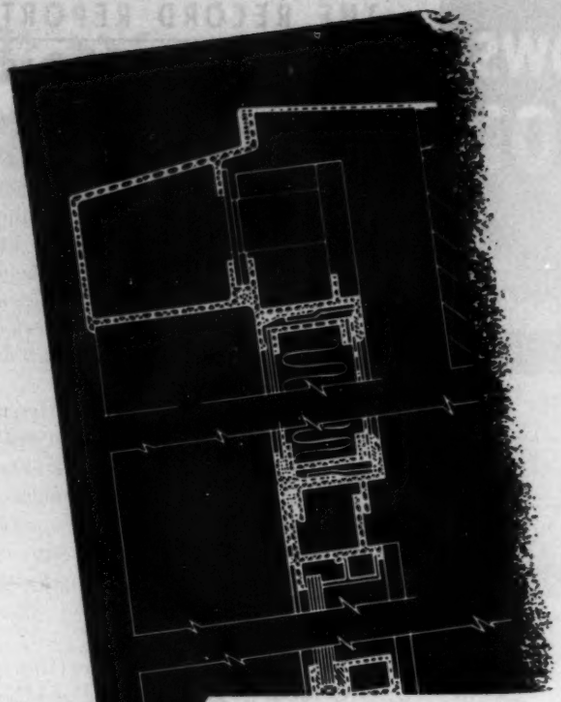
The Veterans Administration suddenly became aware (once again) of shoddy housing construction in its GI loan guaranty program and clamped down on builders turning out what it called slovenly work.

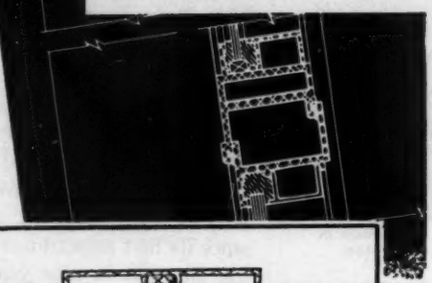
One result was a tightening up of compliance inspections. Ralph Stone, deputy administrator of veterans benefits, said a good many persons now building houses "don't know anything about putting up a home, and we're getting slovenly work."

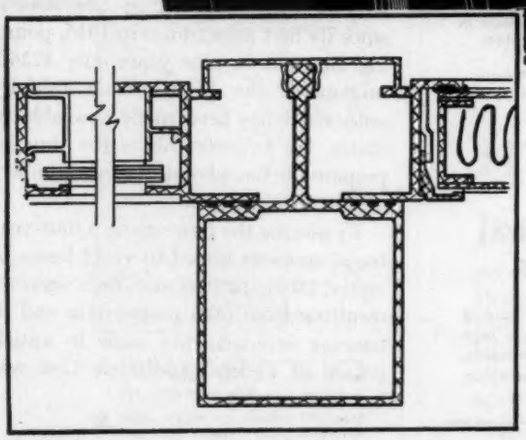
Action took the form of a called meeting of VA compliance inspectors at which they were pressured to tighten up on their own work. Mr. Stone commented: "You just can't guarantee a home with three $5 inspections. We're going to have to see a proper job is done throughout."

In another VA development, the agency began requiring home builders — especially those developing large tracts — themselves to correct plans and specifications submitted to the VA for approval. VA had been doing the correcting.

(*Continued on page 314*)







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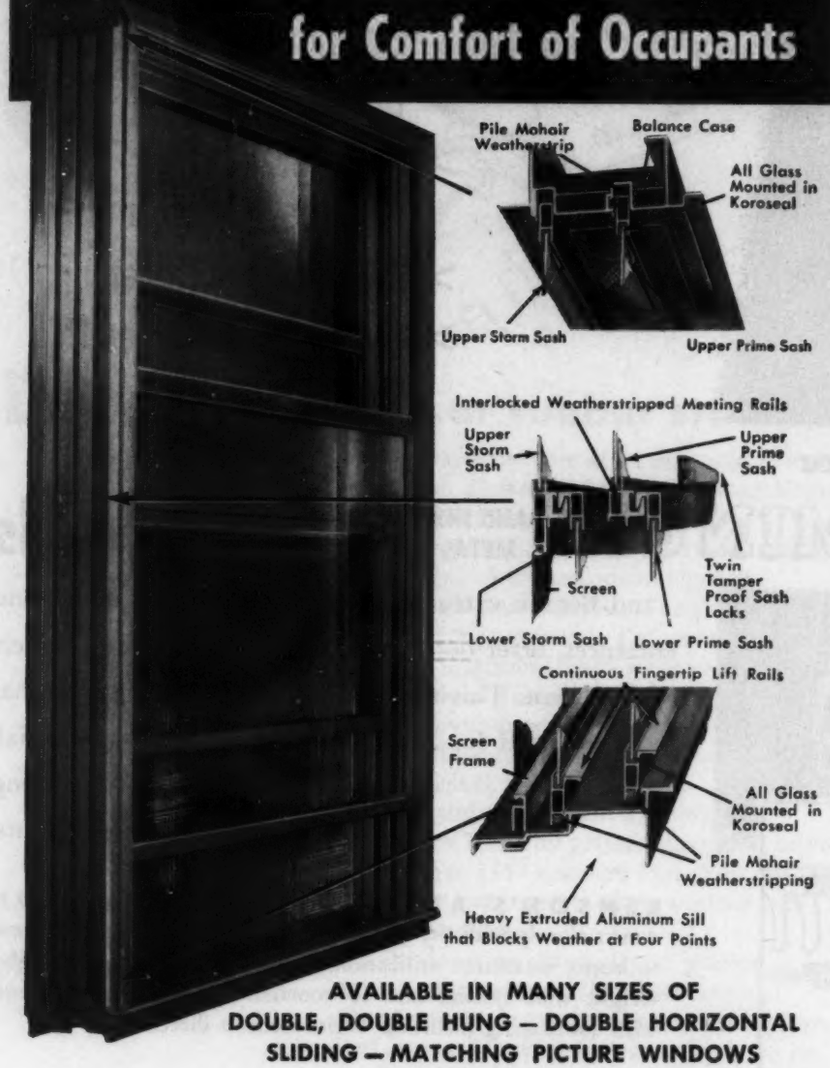
Architectural Division **BENSON MANUFACTURING CO.**

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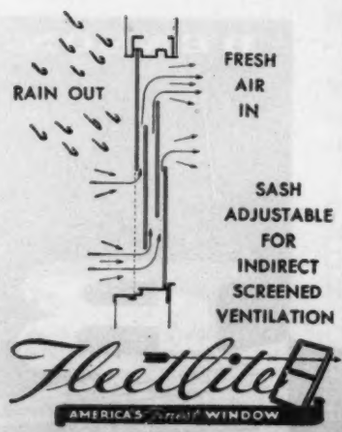
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THE RECORD REPORTS

WASHINGTON TOPICS

(*Continued from page 312*)

The rule was not applied to builders of one or two homes because VA could continue to handle corrections in these cases without losing appreciable time. If the agency tried to apply its regulation to the small builder, chances are inexperience would bring him back to the VA many times for corrections and this could be costly.

VA also discontinued its negative no-down-payment loans, forcing buyers to pay closing costs outside the guaranteed mortgage. The practice of builder or seller loaning the buyer the closing costs has been used as a sales gimmick in some areas, and VA was fearful a trend might be set.

MONRONEY BILL WOULD INCREASE AIRPORT AID

Talk of rejuvenating the Federal airport construction program to the extent of $250 million moved into the legislative stage with Senator Mike Monroney (D-Okla.), and four of his colleagues introducing a measure to authorize $63 million in Federal aid for each of the next four fiscal years. Only minor changes in the existing act would be effected.

Senator Monroney obviously was impatient with handling of the statute since its first appearance in 1946, pointing out that in nine years only $236.2 million of the $520 million initially authorized has been made available to states. He believes this is the time to prepare for the advent of large numbers of jet transport planes.

By placing the program on a four-year basis, sponsors hoped to avoid losses to states, municipalities and other agencies resulting from plan preparation and financing arrangements made in anticipation of Federal assistance that was not forthcoming.

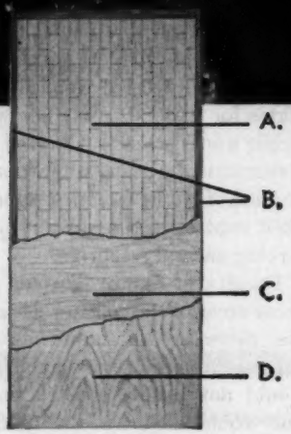
PATMAN BILL WOULD AID COÖPERATIVE HOUSING

Rep. Wright Patman's bill was representative of efforts in Congress to strengthen the coöperative housing program. The Texas Democrat proposed a series of amendments to the housing act which would, among other things, allow mortgages for coöperative housing to be based on replacement cost rather than

(*Continued on page 316*)

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D. Face veneers — selected face veneers glued with phenolic resin glue to both sides of the door and belt-sanded smooth

The wood door *water cannot affect!*

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EQUIPMENT Manufacturing Co., INC.

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THE RECORD REPORTS
WASHINGTON TOPICS

(Continued from page 314)

estimate of value as at present. He claimed the Congress was stampeded last year in view of the FHA scandals.

Said Mr. Patman: "The coöperative housing section, which had had no breath of scandal, and which was operated with greater safeguards than any other FHA program, was blanketed into change which was unnecessary and has now proved to be very unwise."

Applications for coöperative projects have dwindled to almost nothing because the changes last fall made it necessary for prospective coöp members to invest 20 per cent, 30 per cent, or in some cases as high as 35 per cent of the cost of the project.

FEDERAL-STATE PROGRAM OF PUBLIC WORKS ASKED

The idea of a sizeable Federal-state matching public works program was revived by Senator Jennings (D-Va.), who proposed legislation authorizing $3 billion in Federal money to start with.

One significant provision of this bill was its proposal to give the President new authority to appoint an overall public works administrator. This PWA office would receive applications from states for Federal assistance with their public works projects. Covered would be construction, repair, alteration, or expansion of public facilities, reforestation, flood control, and similar projects conserving natural resources.

Priority of approval would be given those areas of the country designated by the Secretary of Labor as areas of substantial labor surplus. The PWA would not handle construction details but would allot Federal funds to the agency having responsibility. Apportionment would be on a 45-Federal, 55-state or local basis.

"URBAN RENEWAL MONTH" PLANNED EARLY IN 1956

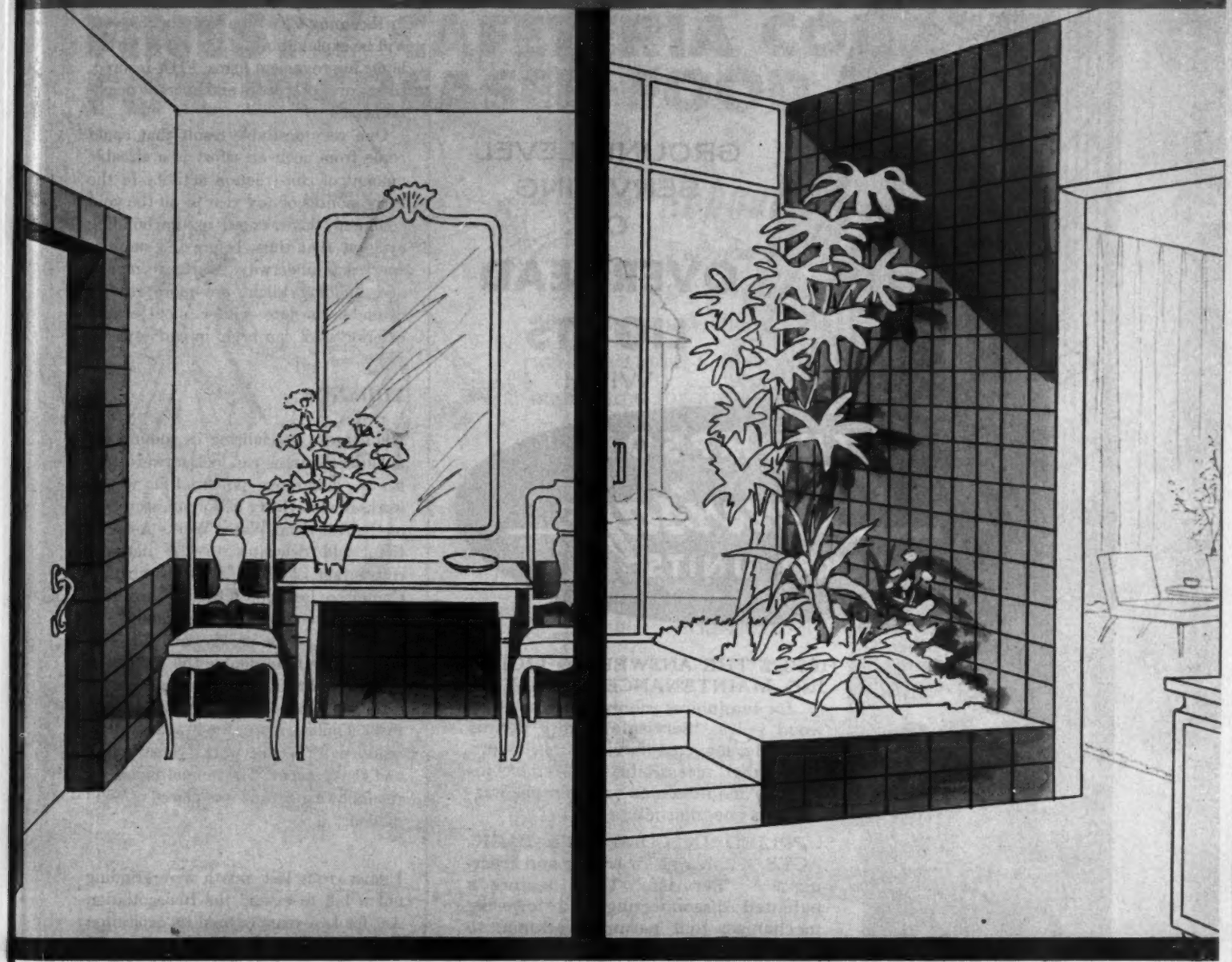
Housing and Home Finance Agency and representatives on construction trade associations were hard at work planning an "urban renewal month" for 1956. Object is to focus national attention on neighborhood conservation — the prevention of slum development.

Prominent in the promotion to be

(Continued on page 318)

Preview by Monsanto

Styrene wall tile suggests new treatments for an entrance hall



A unique combination of qualities has long made styrene plastic tile a preferred surfacing material for bathroom and kitchen walls.

Today these same characteristics—low water absorption, durability and lightweight—natural luster, wide color range and low cost—are extending the application of styrene wall tile into other parts of the house.

Suggestive of its new decorative and functional possibilities are these sketches for two entrance halls.

In the traditional foyer (left), styrene tile creates a dado and door frame that will not be damaged by rain-soaked coats and umbrellas. Its rich coloring can be harmonized or contrasted with wall paper, floor and appointments.

In the contemporary entrance hall (right), styrene tile faces an entire wall without reinforcement. This material needs no special care or attention. Damp-cloth cleaning will preserve its lustrous beauty year after year.

Wall tile made of Lustrex styrene plastic is carried by most tile contractors in solid pastel colors, deep tones and marbleized effects. Standard tiles are 4¼″ x 4¼″ and 8″ x 8″. Special molded pieces are also available for corners. Permanent installation is quick and easy over wood, plaster or wallboard, and similar wall surfaces.

Monsanto Chemical Company, Plastics Division, Dept. AR-6, Springfield 2, Mass.

MONSANTO

For lasting satisfaction, specify wall tile made of LUSTREX Styrene Plastic

POLYSTYRENE

THIS SEAL IDENTIFIES TILE THAT MEETS THE STANDARDS SET BY THE WALL TILE INDUSTRY



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HERE'S THE ANSWER TO LIGHTING MAINTENANCE PROBLEMS . . . for luminaires mounted on walls or wood poles. "Servisafe" Units permit fast, safe, low-cost servicing . . . assure all-weather accessibility . . . reduce luminaire maintenance to a simple hazard-free one-man job.

SUPPLIED IN COMPLETE PACKAGES* . . . ready for wiring and erecting . . . "Servisafe" Units feature a patented disconnecting and lowering mechanism that permits workman to lower a luminaire . . . clean or relamp it . . . and then reposition it with minimum effort and complete safety.

FOR NEW INSTALLATIONS OR RAPID CONVERSION OF EXISTING FACILITIES, "Servisafe" Bracket Units have unlimited application . . . can be used with all standard pendant and flood type lighting fixtures.



Ground-level luminaire servicing is . . .

- SAFER
- FASTER
- MORE ECONOMICAL

* *Luminaires are not included in Bracket Unit packages.*

WRITE FOR BULLETIN WPH-54 FOR ADDITIONAL DETAILS.



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THE RECORD REPORTS

WASHINGTON TOPICS

(*Continued from page 316*)

forthcoming sometime early in the year will be explanations of the use of Title I home improvement loans, FHA-insured, to improve properties and upgrade neighborhoods.

One very desirable result that could come from such an effort is a sizeable amount of construction activity in the early months of any year to fill the void commonly experienced in the building cycle at that time, before the summer spurt gets underway. Mortgage money and building talent are more readily available in late winter months and exterior work can begin in early spring.

ADDENDA

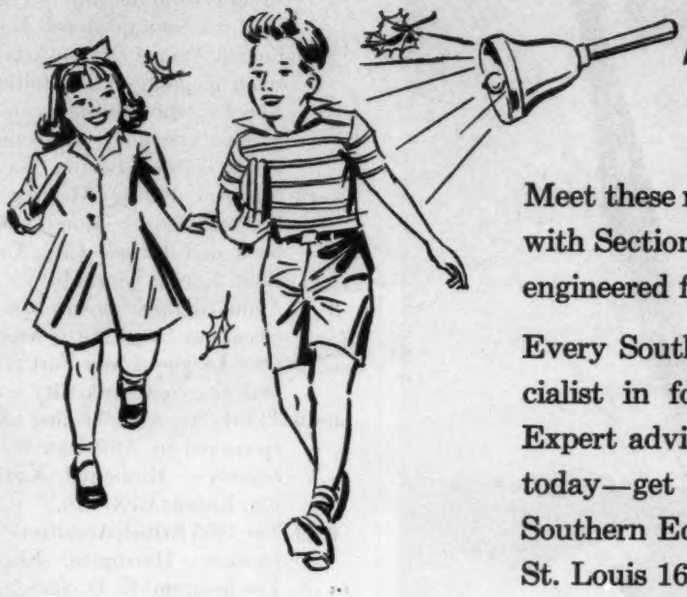
ARCHITECTS specializing in community facilities planning can look forward to a heavy, long-range potential in waterworks design. Harry E. Jordan, secretary of the American Water Works Association, told delegates to the national convention of the U. S. Chamber of Commerce last month that average municipal water use will approximate 175 gallons per person per day in 1975. This would more than double the 1950 rate. The Department of Commerce recently estimated that an outlay of $862 million to $950 million a year for 10 years will be required for water works construction and replacement. The annual figure for the following decade was placed at $550 million.

LEGISLATORS last month were grinding out a bill to extend the Renegotiation Act for two years beyond its expiration date of December 31, 1954. No effort was made to extend the law at the time it expired, but several members of Congress recently have been urging its continuance on grounds there is enough defense contracting business to warrant it. The statute would allow the Federal government to recover excess profits from defense contracts through renegotiation following award. The White House has requested extension.

SENATOR HUBERT HUMPHREY (D-Minn.) proposed Federal grants for construction of public health schools. Grants of $1 million for each of five fiscal years would be administered by the Public Health Service.

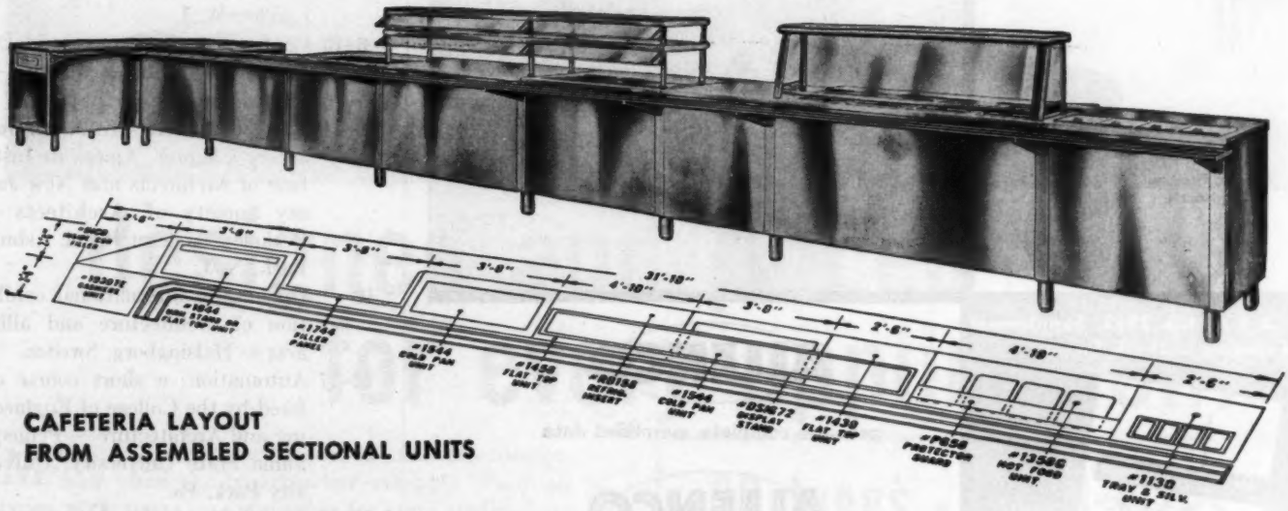
(*More news on page 320*)

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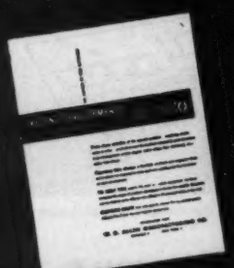


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Allenco Fire Line Fog Nozzle

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THE RECORD REPORTS

(Continued from page 318)

ON THE CALENDAR

June

2–4 Annual meeting, National Society of Professional Engineers — Philadelphia

2–4 Annual assembly of the Royal Architectural Institute of Canada — Nova Scotian Hotel, Halifax

5–19 Fourth Annual Boston Arts Festival, including an exhibition of New England painting, sculpture, graphic arts and architecture — Public Garden, Boston, Mass.

7–10 National Spring Meeting and Welding Show — Hotel Muehlebach and Kansas City Auditorium, Kansas City, Mo.

8 Annual dinner, Construction Specifications Institute — Architectural League of New York, 115 E. 40th St., New York City

8–10 Third Annual Welding Show, sponsored by American Welding Society — Municipal Auditorium, Kansas City, Mo.

8–11 The 1955 British Architects' Conference — Harrogate, England. For program: C. D. Spragg, Secretary, Royal Institute of British Architects, 66 Portland Place, London W. 1

8–18 Conference of International Organization for Standardization — Stockholm

9–11 The 55th annual convention, New Jersey Chapter, American Institute of Architects and New Jersey Society of Architects — Berkeley-Carteret Hotel, Asbury Park, N. J.

10 Opening of international exhibition of architecture and allied arts — Halsingborg, Sweden

12–17 Automation; a short course offered by the College of Engineering and Architecture — Pennsylvania State University, University Park, Pa.

13–15 Health Physics Conference covering the field of radiation safety — Ohio State University, Columbus

13–17 Convention of the American Society of Civil Engineers — Hotel Jefferson, St. Louis

13–18 International Design Conference — Aspen Institute, Aspen, Colo.

14–24 Plastics in the Design of Building Products: a special summer program covering technical fun-

(Continued on page 322)



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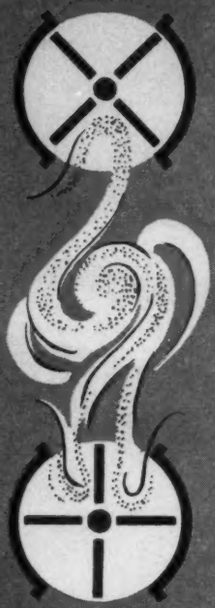
FIRM _____

ADDRESS _____

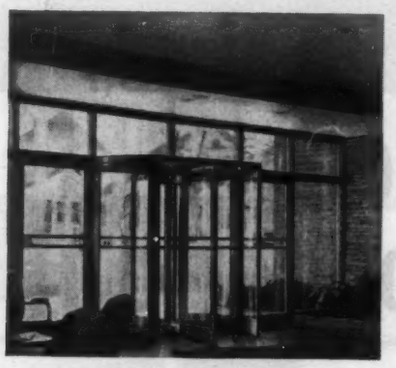
CITY _____ ZONE ____ STATE _____

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THE RECORD REPORTS

(Continued from page 320)

damentals and design principles — Massachusetts Institute of Technology, Cambridge, Mass.

19–23 Diamond Jubilee semi-annual meeting, American Society of Mechanical Engineers — Boston

19ff Second annual material handling training conference; until July 2 — Lake Placid, N. Y. Information: James R. Bright, Director, c/o Harvard Business School, Boston 63, Mass.

20–23 National Convention, Forest Products Research Society — Seattle

20–24 The 63rd Annual Meeting, American Society for Engineering Education — Pennsylvania State University, State College, Pa.

20–24 The 87th Annual Convention, American Institute of Architects — Hotel Radisson, Minneapolis

22–25 National Conference on Instruction in Landscape Architecture — Allerton Park (country conference center of the University of Illinois), Monticello, Ill.

26–29 The 56th Annual Conference, American Society of Landscape Architects — Sheraton Cadillac Hotel, Detroit

26ff Annual meeting, American Society for Testing Materials; until July 1 — Chalfonte-Haddon Hall, Atlantic City, N. J.

27–29 First Annual Meeting and Technical Conference, American Nuclear Society — Pennsylvania State University, State College, Pa.

27–29 Semi-annual meeting, American Society of Heating and Air Conditioning Engineers — St. Francis Hotel, San Francisco

27ff Summer General Meeting, American Institute of Electrical Engineers; until July 1 — New Ocean House, Swampscott, Mass.

28ff Built in Latin America; an exhibition of examples of 20th century Latin American architecture selected by Henry-Russell Hitchcock and photographed by Rosalie Thorue McKenna; until Sept. 5 — Museum of Modern Art, 11 W. 53rd St., New York City

29ff III Biennial of the Museum of Modern Art of São Paulo; until Oct. 12 — Parc d'Ibirapuera, São Paulo, Brazil

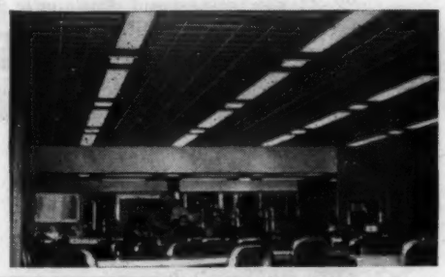
(Continued on page 324)

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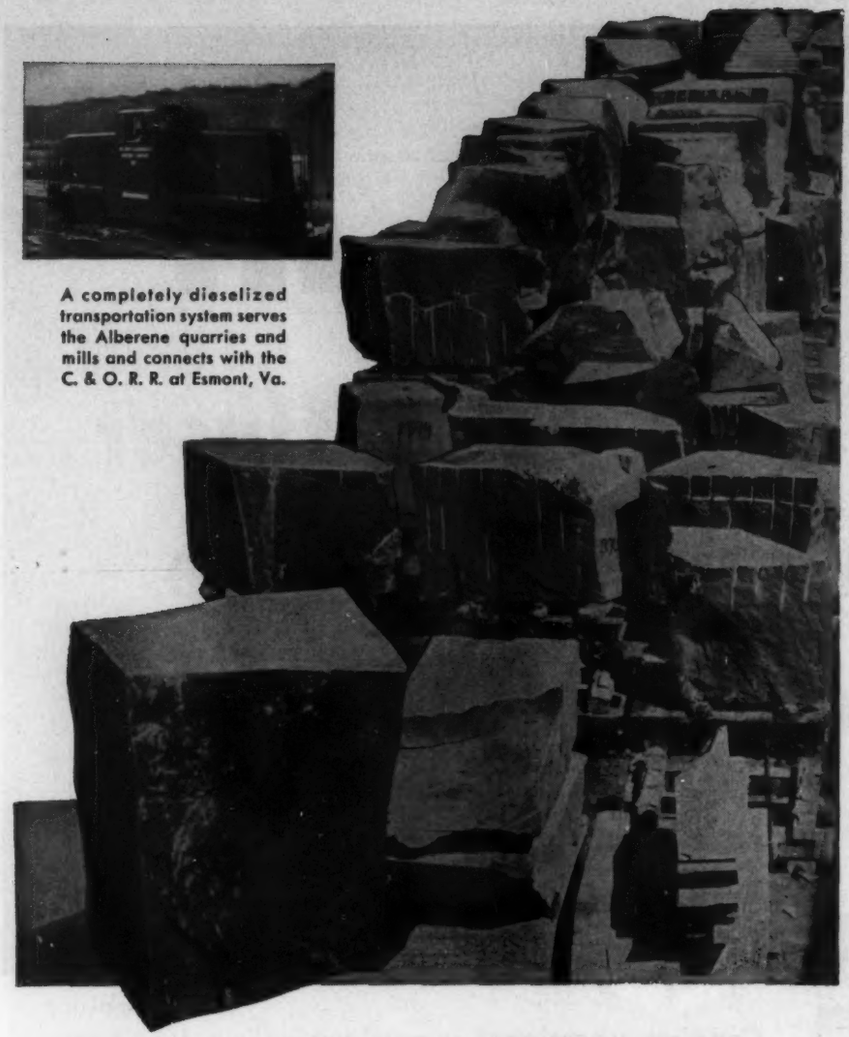
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THE RECORD REPORTS

(Continued from page 322)

July

- **3–8** The 93rd Annual Convention, National Education Association — Chicago
- **3–9** Annual conference, American Library Association — Convention Hall, Philadelphia
- **5–15** Soil Engineering for Airfields and Highways; a special summer program under the direction of Dr. T. William Lambe, associate professor of soil mechanics, Department of Civil Engineering — Massachusetts Institute of Technology, Cambridge 39, Mass.
- **10–19** Ninth Panamerican Congress of Architects (postponed from March) — Caracas, Venezuela
- **11–16** Fourth Congress of L'Union Internationale des Architectes — The Hague-Schveningue, The Netherlands
- **14ff** Sixth annual architecture and planning workshop; until Aug. 24 — Instituto Tecnologico de Monterrey, Mexico

August

- **4–6** The 12th Annual Midsummer Conference, Michigan Society of Architects — Grand Hotel, Mackinac Island, Mich.
- **15–26** Noise Reduction: a special summer program under the direction of Dr. Leo L. Beranek, associate professor of communications — Massachusetts Institute of Technology, Cambridge 39, Mass.
- **22–23** Electronics and Automatic Production; a national symposium jointly sponsored by Stanford Research Institute and National Industrial Conference Board — San Francisco

OFFICE NOTES

Offices Opened

• Chalfant Head, A.I.A., has announced the opening of an office in The Plaza, 106-A S. Montgomery St., Ojai, Cal.

• Robert B. Myers, Architect, who formerly practiced in West Orange, N. J., has opened permanent offices at Sea Girt Ave. and Route 71, P.O. Box 77, Sea Girt, N. J.

(Continued on page 326)

Specified

because it provided the best lighting for the job!

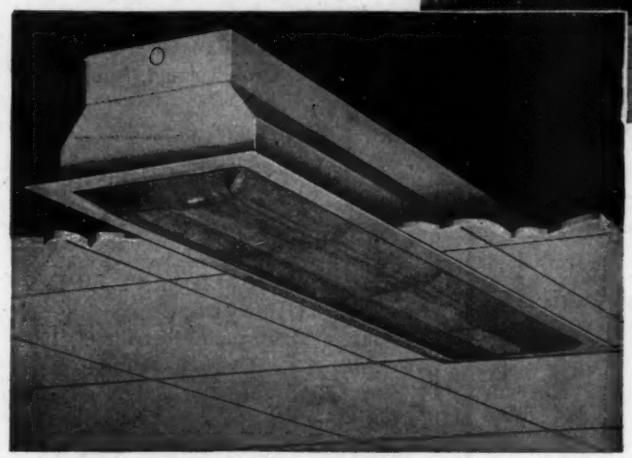
Building:
Municipal Administration Airport Bldg., Cedar Rapids, Iowa.

Consulting Engineers:
Green Engineering Co., Cedar Rapids, Iowa.

Electrical Contractor:
Cedar Rapids Electric Supply, Co., Cedar Rapids, Iowa.

Design No.:
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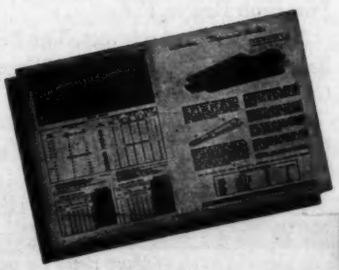
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THE RECORD REPORTS

(Continued from page 324)

• Robert C. Taylor, A.I.A., has announced the opening of offices at 212 S. Marion St., Oak Park, Ill.

• Charles W. Yoder & Ned E. Fischer, Associate, Consulting Engineers, is the name of the new partnership practicing at 3075 N. 35th St., Milwaukee 10, Wis.

• Gene Zema, A.I.A., and A. O. Bumgardner, A.I.A., have formed a partnership to practice architecture in commercial and institutional fields. Offices are at 200 E. Boston at Eastlake, Seattle 2, Wash. The partners each maintain an independent residential practice.

Firm Changes

• Bellman, Gillett & Richards, architectural and engineering firm of Toledo, Ohio, have announced that E. Alfred Picardi has recently joined the firm as associate and chief structural engineer.

• Eggers and Higgins, Architects, have announced the appointment of staff members Allen R. Congdon, Archie J. Doolittle, Eliot B. Willauer and George H. Buterbaugh as associates of the firm. Offices are at 100 E. 42nd St., New York, N. Y.

• Albert Kahn Associated Architects and Engineers, Inc., recently elected R. E. Linton and S. King as two additional directors to the firm's board. Re-elected as executive officers: George H. Miehls, president and treasurer; S. Marton, executive vice president; G. K. Scrymgeour, secretary; S. Saulson, O. L. Canfield, F. K. Boomhower, Mr. Linton, F. A. Fairbrother and Mr. King, vice presidents. The firm's address is 345 New Center Bldg., Detroit 2, Mich.

• Thomas-Benjamin-Clayton, Engineers & Architects, is the name of the firm known heretofore as Thomas & Benjamin, Consulting Engineers; partners are engineers Lloyd L. Thomas and Edwin D. Benjamin and George E. Clayton, Architect. Offices are located on Highway 30, Grand Island, Neb.

New Addresses

Joseph Allen, Architect, 412 Morris Ave., Elizabeth, N. J.

Berla & Abel, Architects, 2000 P St., N. W., Washington, D. C.

Irving Boigon, M.R.A.I.C., 321 Davenport Rd., Toronto 5, Ont.

Eugene R. Branning, Architect, 1900 Commerce St., Dallas 1, Texas

Daniel M. Cashdan and Associates, Consulting Engineers, Empire State Bldg., 350 Fifth Ave., New York 1

James William Kideney & Associates, Architects-Engineers, 220 Delaware Ave., Buffalo 2, N. Y.

James H. Livingstone, Architect, 520 Rock Creek Rd., Ann Arbor, Mich.

Lockwood Greene Engineers, Inc., Architects-Engineers, 41 E. 42nd St., New York 17, N. Y.

George T. Neuffer, Architects & Engineer, Rooms 1022–1024 S. Main Bldg., 25 S. Main St., Dayton 2, Ohio

Frank Y. Peteet, Architect, P. O. Box 157, East Gadsden, Ala.

Olga E. Petters, Architect, Box 1818, Pompano Beach, Fla.

Joseph Stein, Architect, The Buckingham Bldg., 111 Grand St., Waterbury, Conn.

Thibodeau et Thibodeau, Architectes, 940 Cote de Liesse Rd., Suite 304, Montreal 9, Que.

J. Floyd Yewell, Architect, Hillsdale, N. Y.

(More news on page 338)

DODGE Building Studies

DESIGN FOR MODERN MERCHANDISING: Stores, Shopping Centers, Showrooms

by the editors of ARCHITECTURAL RECORD

A detailed study of the physical design of selling establishments of all types. Included are stores for soft and hard goods, food stores, department stores, wholesale showrooms, and that offspring of a booming suburban market, the shopping center. 254 pages, 8¾ x 11⅝, over 600 illustrations, $8.95.

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by Engelhardt, Engelhardt and Leggett

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DESIGN AND CONSTRUCTION OF GENERAL HOSPITALS

by the U. S. Public Health Service

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INDUSTRIAL BUILDINGS

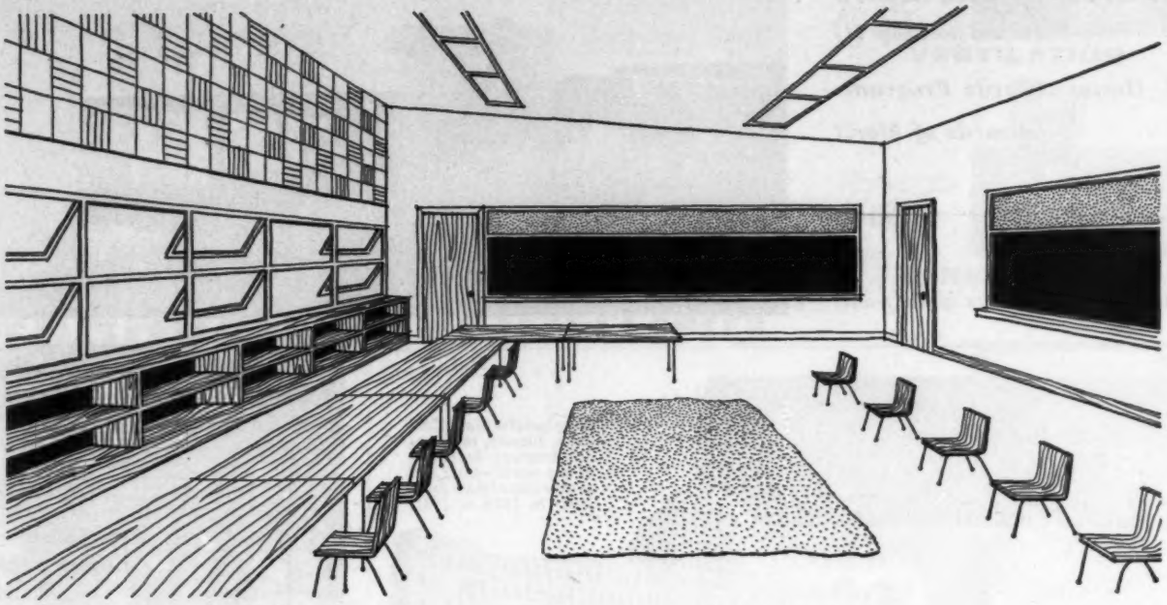
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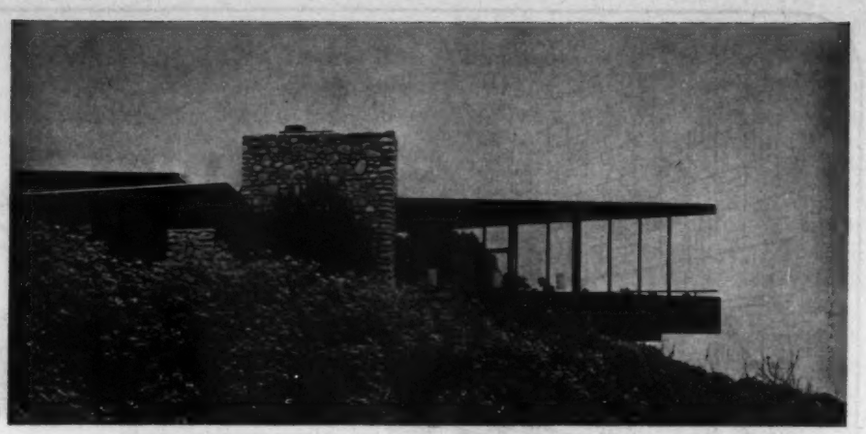
BUILDINGS IN THE NEWS

(Continued from page 11)

A.I.A. Honor Awards Program: Awards of Merit

Houses

Equal awards: numbers identify only **1**





2



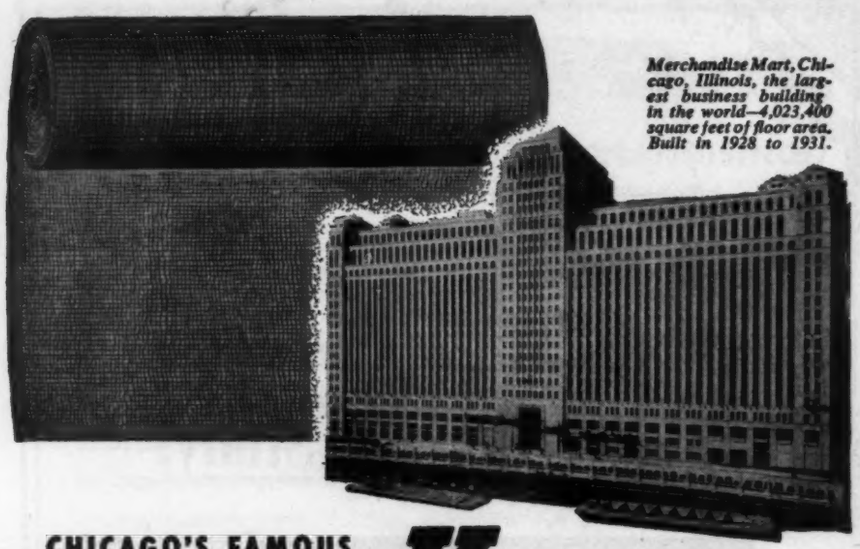
3



4

1. Carmel, Cal.; owner, Dr. and Mrs. Ernest Nelson Moore; architect, Anshen & Allen. 2. Alexandria, Va.; owner-architect-contractor, Charles M. Goodman. 3. Sausalito, Cal.; owner, Mr. and Mrs. George Channing; architect, Roger Lee. 4. Highland Park, Ill.; owner, Mr. and Mrs. Sigmund Kunstadter; architect, George Fred Keck — William Keck

(Continued on page 330)



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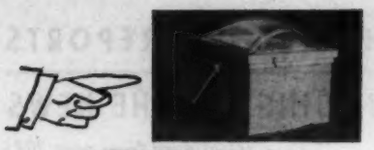
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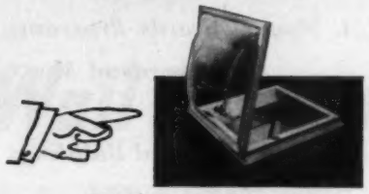
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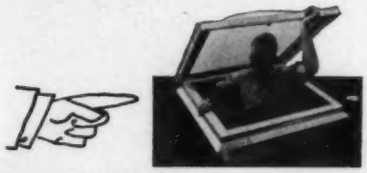
VENTILATION



FIRE-VENTING



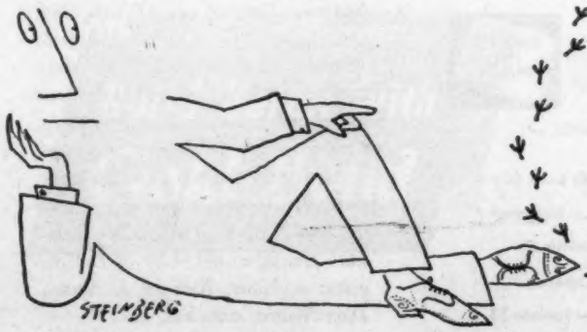
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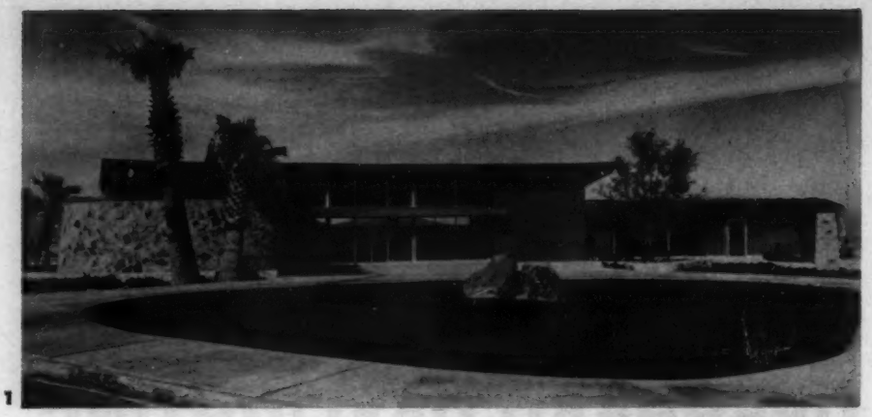
(Continued from page 328)

A.I.A. Honor Awards Program:

Awards of Merit

Commercial Buildings

Equal awards: numbers identify only



1



2

Public Buildings



3



4



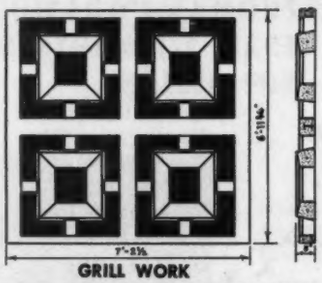
5

1. Bank of Apple Valley, Apple Valley, Cal.; architect, McFarland, Bonsall, Thomas. 2. O'Neil Sheffield Shopping Center, Sheffield Township, Cal.; architect, Weinberg & Teare (Cleveland). 3. Bandstand and park pavilion, St. Petersburg, Fla.; architect, William B. Harvard. 4. Mercantile Library, Philadelphia; architect, Martin, Stewart & Noble. 5. Eagle Rock, Cal., Playground Club House; owner, City of Los Angeles; architect, Richard J. Neutra-Dion Neutra, associate

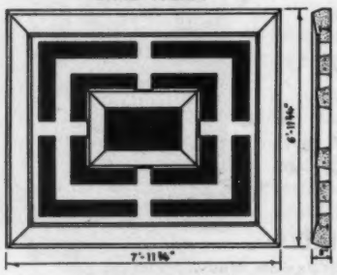
(Continued on page 332)

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Architect: Edward O. Anderson, Salt Lake City.
Builder: Jacobsen Construction Co., Salt Lake City.

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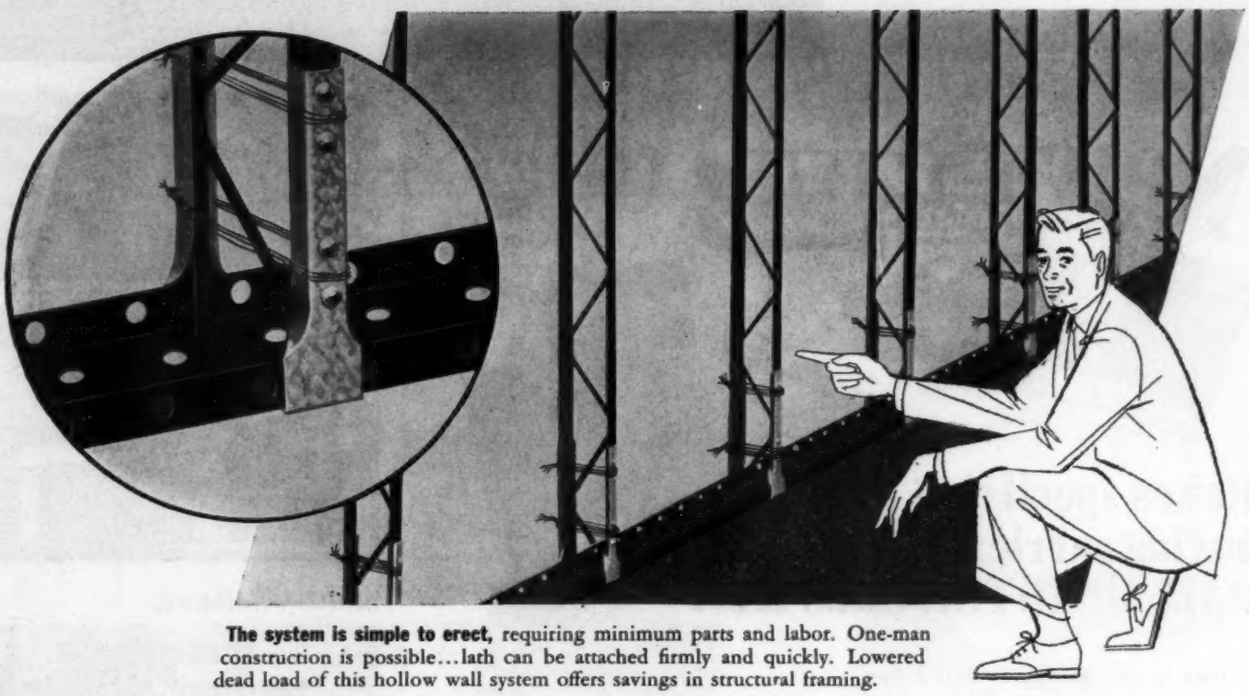
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THE RECORD REPORTS

BUILDINGS IN THE NEWS

(Continued from page 330)

A.I.A. Honor Awards Program:

Awards of Merit

College Buildings

Equal awards: numbers identify only



1



2



3

Military Buildings



4



5

1. Taylor Memorial Library and Reeves Student Building, Centenary Junior College, Hackettstown, N. J.; architect, Jan Hird Pokorny. 2. Home Economics Building, University of California, Davis Campus; architect, Hervey Parke Clark & John F. Beuttler. 3. Men's Residence Hall, University of Washington, Seattle; architect-engineers, Young, Richardson, Carleton & Detlie. 4. U. S. Naval Postgraduate School, Monterey, Cal., and 5. Service Schools, Great Lakes, Ill.; owner, U. S. Navy; architect, Skidmore, Owings & Merrill

(Continued on page 334)

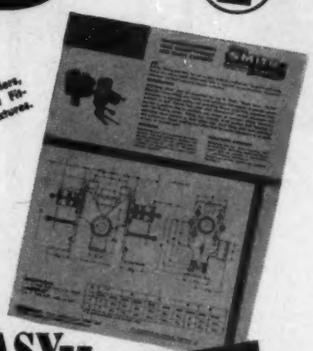
New JAY R. SMITH MFG. CO. Union, New Jersey PLUMB-EASY Catalog E

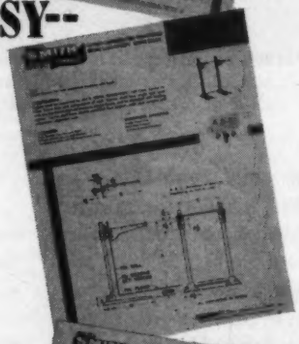


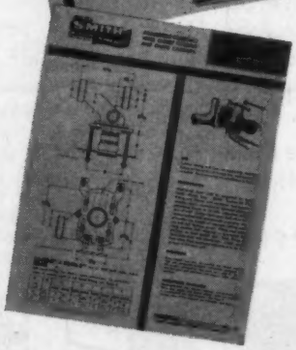
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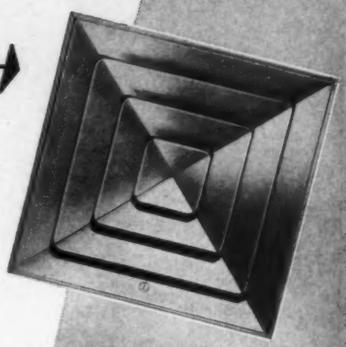
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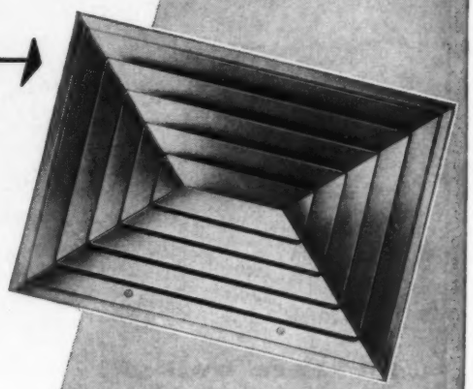
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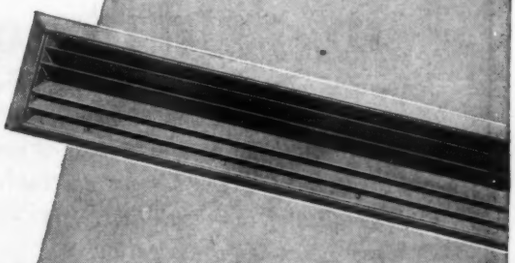
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BUILDINGS IN THE NEWS

(Continued from page 332)

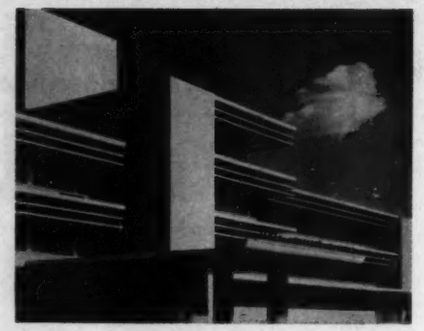
A.I.A. Honor Awards Program:
Awards of Merit

Health Facilities

Equal awards: numbers identify only



1



2

Apartments



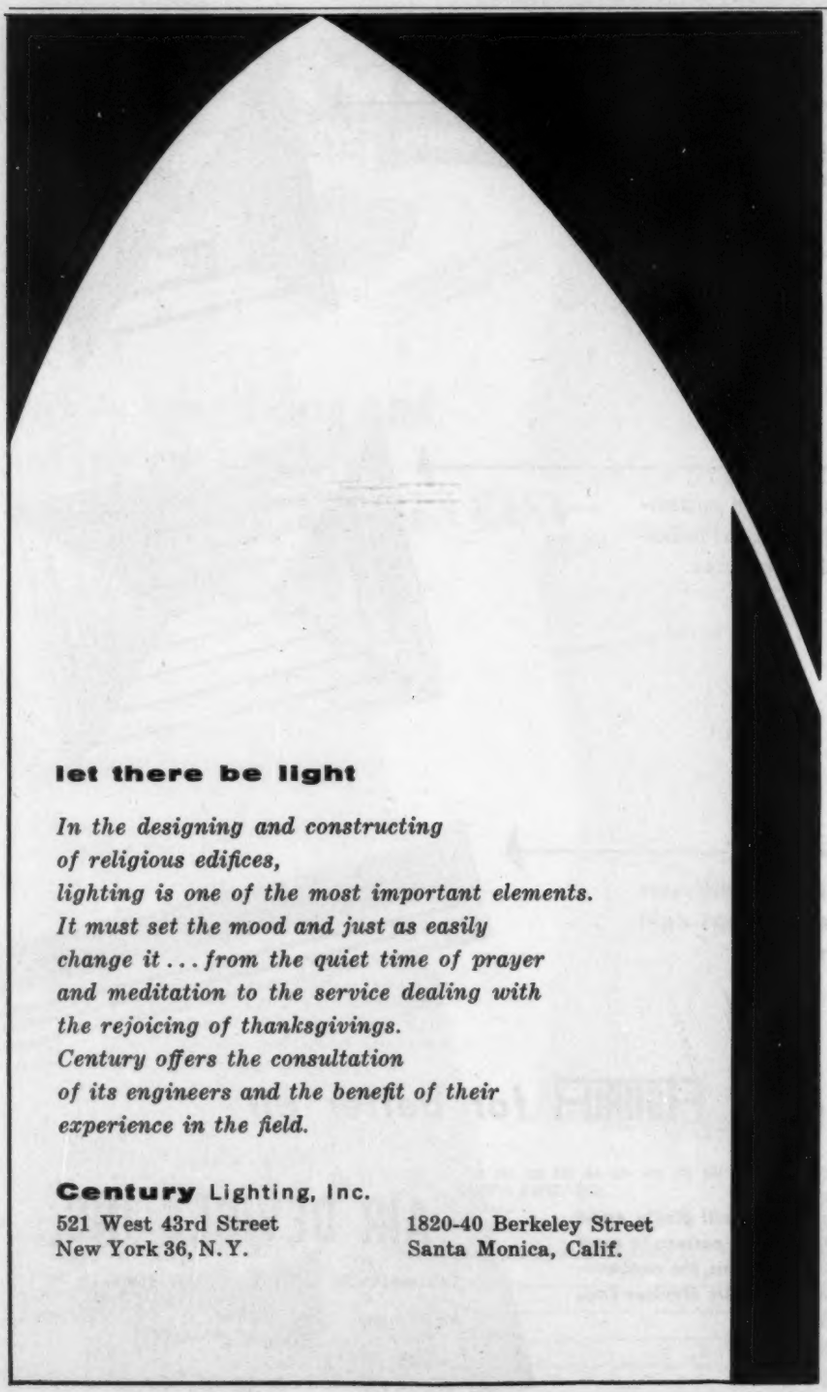
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4

1. Children's Clinic, Raceland, La.; owner, Dr. Wallace Saco; architect-engineers, Curtis & Davis. 2. Children's Hospital, Texas Medical Center, Houston; architect, Milton Foy Martin. 3. Five-unit apartment building, Los Angeles; owner-architect-builder, Carl Maston. 4. Apartment development, Fairfax County, Va.; owner-developer, Luria Brothers; architect, Keyes, Smith, Satterlee & Lethbridge

(Continued on page 336)



let there be light

In the designing and constructing
of religious edifices,
lighting is one of the most important elements.
It must set the mood and just as easily
change it . . . from the quiet time of prayer
and meditation to the service dealing with
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Some of the center's functional and esthetic attributes are indicated by this photograph of a model of the completed project. *Architect:* Skidmore, Owings & Merrill, New York City. *General Contractor:* Bryant & Detwiler Co., Detroit.

Photo of model by Ezra Stoller.

Ford Center Taking Shape in Michigan

This impressive steel skeleton, carrying the familiar "Bethlehem" sign, is the fast-growing framework for Ford Motor Company's Central Staff Office Building — widely heralded as "the perfect decentralized work center." The completed structure will provide exceptionally pleasant working conditions for 3,000 Ford administrative employees.

Conveniently located in suburban Dearborn near the intersection of two arterial highways, the center will be surrounded by a park-like 20-acre plot. Dining rooms will be provided in a two-story employee services building.

The twelve-story tower has many interesting architectural features, including column-free floor space — as the outer columns are beyond the line of the porcelain-enamel curtain wall, while inside columns are within the service core. The office space is modular, based on 4-ft-8-in.-square units. Moving stairs will serve seven floors.

Bethlehem fabricated and erected a total of 9700 tons of steel for the office tower building and the adjoining employee services building.

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THE RECORD REPORTS

BUILDINGS IN THE NEWS

(Continued from page 334)

A.I.A. Honor Awards Program:

Awards of Merit

Religious Buildings

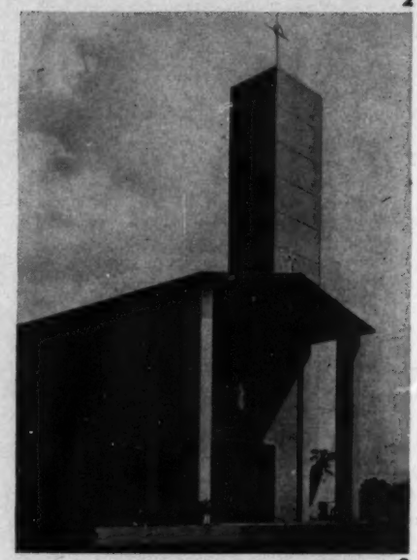
Equal awards: numbers identify only



1



2



3



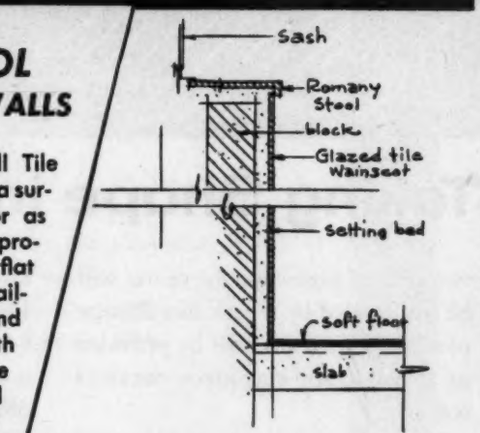
4

1. Danforth Chapel, Colorado A. & M. College, Fort Collins, Colo.; architect, James M. Hunter. 2. Manresa Jesuit Retreat House, Azusa, Cal.; architect, Wallace Neff. 3. St. Brigid Catholic Church, Los Angeles, Cal.; architect, Chaix & Johnson. 4. St. Matthew's Church (Episcopal), Pacific Palisades, Cal.; architect, A. Quincey Jones & Frederick E. Emmons



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You get BETTER MASONRY 3 ways with Atlas Mortar Cement

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Second, masonry made with Atlas Mortar Cement *looks better*. The uniformly good color of Atlas Mortar Cement gives you a consistently good appearance in the wall . . . helps make any job more attractive. And its uniformity goes deeper than appearance because it is quality-controlled during manufacture for more uniform performance in use!

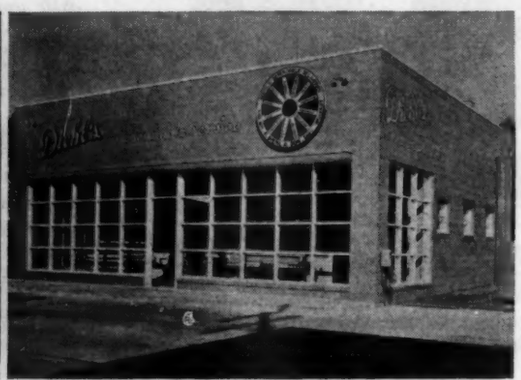
And third, masonry made with Atlas Mortar Cement is *more durable*. The air-entraining properties of Atlas Mortar Cement provide weather-tight joints, highly resistant to freezing and thawing. In addition, Atlas Mortar Cement fully complies with recent ASTM and Federal Specification requirements for soundness (low expansion) in autoclave.

No wonder contractors, masons and architects agree—superior workability, durability and good appearance make Atlas Mortar Cement the outstanding choice for masonry work.

ATLAS MORTAR CEMENT has proved itself on both large jobs and small. It complies with ASTM and Federal Specifications for masonry cement. For further information, write Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N. Y.



BETTER FOR BLOCK — Good body and lasting plasticity of Atlas Mortar Cement aid proper placement of concrete block. Alignment is easy, and heavy units stay in line.



TRUE, TIGHT JOINTS — Atlas Mortar Cement provides a strong, weather-tight bond for this concrete block service station in Wellesley, Mass. Owner: F. Diehl & Son; Gen. Contr.: E. T. Madden & Son; Mason Contr.: Emanuel Indresano —all of Wellesley.

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AR-M-52

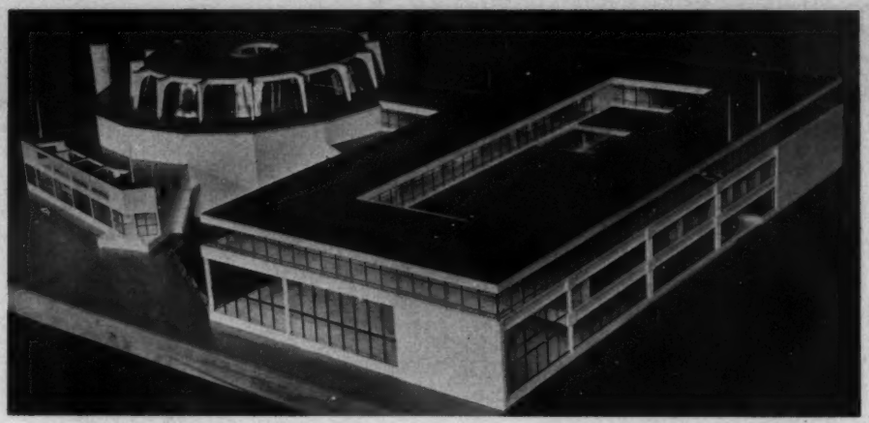


UNITED STATES STEEL HOUR—Televised alternate weeks—See your newspaper for time and station

(Continued from page 326)

BOUWCENTRUM EXTENSION PLANNED IN ROTTERDAM

Bouwcentrum, international building trades center in Rotterdam, is currently building an extension to its headquarters, now located in a circular exhibition hall. Construction is expected to be completed by the middle of this year.



Facilities in the new building, which will add 83,713 sq ft of space to the present total of 47,884, will include, on the first floor, exhibition space and work shops; on the mezzanine, staff offices, library and drafting rooms; and on the second floor, more offices, a canteen for employes, and a terrace. In addition, the restaurant now attached to the existing building will be expanded. The entrance will be relocated in the new building.

Structure will be of reinforced and prestressed concrete and steel.

The architect and "constructional engineer" for the project is J. W. C. Boks.

Research Activities

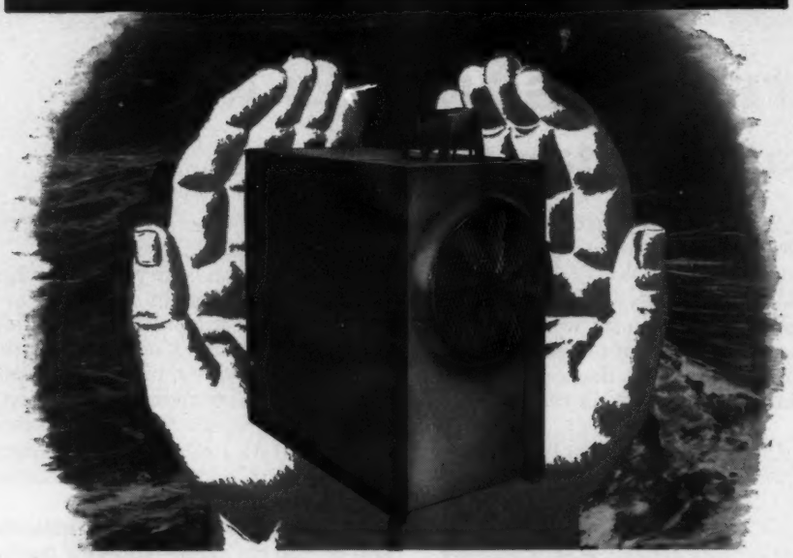
Bouwcentrum, which was founded in 1949, grew out of plans made during the Occupation. Its range of activities, as summarized by its director, J. van Ettinger, on the occasion of groundbreaking for the new building, covers "the relationships which exist between home economics and house building, public health and hospital building, education and school building, production and industrial building and other important spheres with their spatial consequences."

Services offered to the building industry include financial, contractual, engineering and architectural research. The headquarters houses extensive displays of tested building materials; reports on the results of the tests are available to members. The center also serves as a clearing house for design and construction developments throughout the world.

Bouwcentrum publishes the weekly magazine *Bouw*, a Dutch language periodical concerned chiefly with building in the Netherlands. It also publishes monthly the tri-lingual *C. I. B. Bulletin* (in English, French and German), which reports international building news.

(More news on page 360)

HALSTEAD & MITCHELL
COOLING TOWERS



PROTECTED STEEL

for extra-long life!

Steel in cooling towers undergoes constant corrosive attack by both water and water treatment chemicals. H&M combats this rusting . . . adds *years to tower life* . . . by Protected Steel, a new concept in steel protection.

H&M steel cabinets are *hydraulically* painted with Vinsynite, Vinyl Zinc, and chlorinated rubber. Hydraulic painting *forces* these protections into openings . . . builds a solid wall against moisture. H&M fans and shafts are Stainless Steel, rust-proof, of course. Bolts are Everdur, for ease of future disassembly.

The Protected Steel concept is the concept of complete protection. That's what you get on every Halstead cooling tower.

and only HM *offers*

20-Year Guarantee!

on the wetted deck surface against rotting or fungus attack.

Write for Catalog WT & CT 583

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Hudson saves $480,000 a year burning coal the modern way

A decision to improve its power service opened many possible courses of action to Hudson Motor Division of American Motors Corp. Based on findings of consultants Boddy, Benjamin and Woodhouse, Inc., Hudson decided to modernize completely its coal-burning, steam, electrical and compressed air equipment.

Today, steam at Hudson is supplied by three new boilers instead of ten old ones. Other new equipment includes a coal-handling system, automatic combustion controls and automatic ash disposal system. Manpower needs in the boiler area have been cut from 14 to 10 and in the compressor area from 8 to 6. With a reliable power supply, Hudson is protected from service interruptions. And the reduced cost of operation resulting from the new equipment will pay off the original investment in six years, leaving an annual saving of $480,000 thereafter!

Investigate Your Fuel Costs

If you're planning to modernize your plant or build a new one—or if you are just interested in cutting fuel costs—find out how coal, burned the modern way, compares to other fuels. Why not talk to a consulting engineer or your nearest coal distributor. Their advice may save you thousands of dollars each year.

facts you should know about coal

Up-to-date coal burning equipment can give you 10% to 40% more steam per dollar.

Automatic coal and ash handling systems can result in a virtually labor-free plant.

Coal is the safest fuel to store and use. No dust or smoke problems when coal is burned with modern equipment.

In most industrial areas, bituminous coal is the lowest-cost fuel available.

Between America's vast coal reserves and mechanized coal production methods, you can count on coal being plentiful and its price remaining stable.

For further information or additional case histories showing how other plants have saved money burning coal, write to the address below.

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recognize this renderer's technique?

The pencil technique of a top flight renderer is as distinctively and individually his as his signature. Yet the work of so many of these fine artists has one thing in common – it is done with Mars-Lumograph imported drawing pencils and leads. Renderers find Mars the perfect pencil for every step of the job.
Whether you are rendering, detailing, or making working drawings, get the imported Mars-Lumograph or the Mars-Technico push-button lead holder and drawing leads. You'll be glad you did.



Vincent Furno, A.I.A. who executed the above rendering.

The 2886 Mars-Lumograph drawing pencil, 19 degrees, EXEXB to 9H—$1.50 per dozen—less in quantity. The 1001 Mars-Technico push-button lead holder—$1.50 each—less in quantity. 1904 Mars-Lumograph imported leads, 18 degrees, EXB to 9H—$1.20 per dozen—less in quantity.

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HACKENSACK, NEW JERSEY

at all good engineering and drawing material suppliers

RECENT PERIODICALS

A.I.A. PUBLICATIONS

(*Continued from page 20*)

The Focus is Local

The editors of all of the bulletins seem to limit themselves in general to local and regional news, and news from other parts of the country is carefully chosen for its interest to local architects. That members are curious about their colleagues around the country, however, is indicated by a recent proposal from the editor of the Westchester (N.Y.) Chapter's *The Blueprint* for a mutual exchange of all publications issued at the chapter level.

Among the several modest publications of interest (demonstrating, incidentally, the adequacy of mimeograph for reproduction of good editorial material) the Georgia Chapter's monthly bulletin seems to do a particularly good job of funneling essential state and national A.I.A. news to its members; additional service to members, sampled in the March 10 issue, included a brief review of recent Georgia legislation affecting architects and reports of national conferences on modular coordination and 'retained percentages."

The Baltimore Chapter's *Architects' Report*, though printed by offset, is still a simple four-page publication without illustrations. Since 60 per cent of its circulation is non-architectural, it devotes less of its space to chapter business than do intra-chapter bulletins. Its lead article in April, for instance, was an excerpt from an address by British architect Peter Shepheard on "The Importance of Being Serious."

The Sky's the Limit

For those chapters with the requisite time and money, it is of course possible to produce ambitious journals like the Michigan Society's *Monthly Bulletin*, *The Florida Architect*, *The Texas Architect* or Minnesota's *Northwest Architect*. These are all sizable magazines, profusely illustrated, and serve as quite imposing showcases for the architecture and activities of chapter members. These derive at least some of their support from advertising.

Brief descriptions of the publications received follow herewith:

Alabama Society of Architects—*Bulletin*; three or four pp. monthly; mimeograph; no advertise-

(*Continued on page 344*)



2 to 1 it's Mildew

And the answer is paint fortified against mildew attack—with

SUPER AD-IT.

(di [phenyl mercury] dodecenyl succinate)

Mildew is a microscopic fungus that attacks the finish, slowly destroying the protective effectiveness and beauty of even the finest paints. Every hour of every day mildew is busy disfiguring painted surfaces all over the United States.

A recent nation-wide survey reported that mildew was the cause of paint discoloration in 68% of the cases! And you can't wash mildew away.

Five years ago the battle against mildew was costly and even dangerous. Today, with the addition of chemical fungicides to paints, mildew is in retreat. Perhaps the finest and most widely effective of these fungicides is Super Ad-It.

450 paint manufacturers can't be wrong! In less than five years, 450 firms have accepted Super Ad-It as the most effective *fungicide* for alkyd and oil paints, and Super Ad-It also imparts *mildew-resistance* to all standard aqueous systems.

So be sure the paint you specify is mildew-resistant—that it contains Super Ad-It—(di [phenyl mercury] dodecenyl succinate). The cleaner looking, longer lasting paint jobs you get will prove our story. You'll be glad you specified Super Ad-It . . . and so will your clients.

Write today for illustrated folder on the control of mildew—showing the detailed results of our nation-wide survey. You will find this folder particularly valuable if you have a current mildew problem—interior or exterior—in either residential or industrial construction.

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"A REAL CONTRIBUTION TO SCHOOL PLANNING LITERATURE" John Lyon Reid

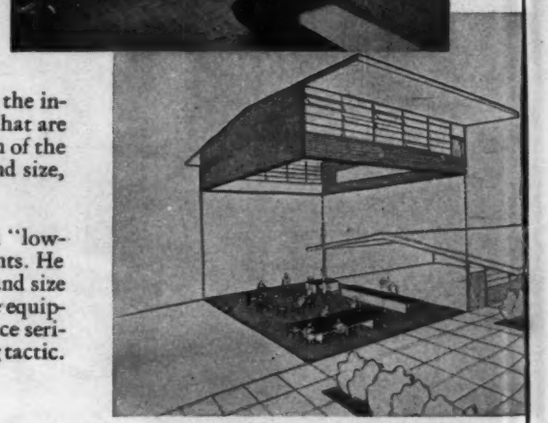
TOWARD BETTER SCHOOL DESIGN by William W. Caudill



So complex is today's task of designing a good school that architects need planning information that goes beyond physical considerations into the social, economic and cultural forces which affect the school system. At the same time they need practical information that offers concrete solutions to planning problems that they are encountering daily.

TOWARD BETTER SCHOOL DESIGN contains this vital information. Working from his immediate experience, William W. Caudill successfully relates school design to the aims and methods of education, to the influence of environment on the learning process, and to the role of schools as community institutions. He shows how the planner must assess every factor, weigh each one, and plan an architectural solution to his specific educational, economic and environmental problems.

William W. Caudill is eminently qualified to render aid and advice on the task of planning schools and school building programs. In his twenty-year school planning career he has won an international reputation for combining a practical approach with exciting creative vision. As research architect at the Texas Engineering Experiment Station of Texas A. & M., he pioneered studies of classroom shapes and sizes as related to physical and emotional environment, and formulated many of the basic principles upon which good schools are being built today. During the last four years he has designed over fifty schools and has lectured and served as a consultant throughout the United States.



Education and Enviroment: Caudill demands that a good school must be designed from the inside out, and "every idea, every material, every dollar related to the needs of the pupil." What are the physical and emotional needs of the pupil? How does the learning process affect the form of the building? What is the best physical and emotional environment in terms of room shape and size, fenestration, ceiling height, light, color, textures, acoustics, ventilation, landscaping?

Economy: Caudill attacks the problems of costs head-on. He clearly differentiates between "low-cost" schools and "economical" schools, and quotes actual cost figures to illustrate his points. He explains how to set up a cost-control plan, and how total costs are affected by land, shape and size of building, materials, structural frame, construction methods, space allocation, and service equipment. He compares prime and maintenance costs to show how "saving" on one may produce serious loss on the other. Finally, he discusses the proper timing of bid-letting as a cost-cutting tactic.

SEVEN EXTENSIVE SECTIONS

the PUPIL and the school plant
EDUCATION and the school plant
ENVIRONMENT and the school plant
ECONOMY and the school plant
CITY PLANNING and the school plant
the DIVISION OF SPACE for effective education
the PLANNING PROCESS and the school plant

91 SPECIFIC CASE-STUDIES FROM ACTUAL PROJECTS

Each case study is presented in 3 parts: 1) the Problem, 2) the Approach, 3) the Solution. Here are a few of them:

Can boiler rooms have educational functions?
How can a very small site located in enormously expensive property be best utilized?
Can improvements in the appearance and economy of hardware be made?
Can corridors be used for educational purposes?
What is a good way to provide easel painting in Kindergarten?
Can a school library be designed to serve the community?
Can toilets be designed to minimize control problems?
Can open type corridors be used successfully in Northernmost areas?
Can low budget gyms be lighted by natural means effectively?
Can improvements be made on combination of cafeteria service with other school functions in an elementary school?
Can a highly compact school plant have decentralized classrooms?

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Position

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City, State

RECENT PERIODICALS

A.I.A. PUBLICATIONS

(Continued from page 340)

ments. Contents are generally confined to chapter business and regional and national announcements.

California Council of Architects—*Councilletter;* average four pp. monthly; offset with occasional line cuts or halftones; ads. Contains news of chapter events as well as reports on legislation and professional practice.

California Council of Architects—*The California Architect;* about 32 pp. annually; letterpress with halftones; ads. Chief function has been to report Council's annual convention, and briefly to cover conventions in nearby regions; at latest convention, Council elected to publish the magazine quarterly and to direct it toward the layman; it is to be distributed free.

Northern California Chapter—*Northern California Bulletin;* 14–18 pp. monthly; letterpress with halftones; ads. Covers chapter affairs as well as legislation, architectural education, practice and activities of other building groups.

Southern California Chapter—*Bulletin;* average 32 pp. monthly; letterpress with halftones; ads. Besides news of chapter affairs, public relations and local practice, regularly contains at least one special feature; e.g., "The Future of Church Architecture," "Atomic Energy and Architecture," "Polyhedra and Spatial Construction."

Orange County Chapter—*Bulletin;* 20 pp. monthly; mimeograph; ads. Contents include chapter, state and national A.I.A. news, reports on legislation and local building industry events and special articles ("How Will Orange County Grow?"; "Traveler's Report" on European architecture).

Pasadena Chapter—*Information Please;* three or four pp. monthly; mimeograph; ads. Reports local news and announcements exclusively.

San Diego Chapter—*The San Diaiogan;* three pp. monthly; "Ditto"; no ads. Covers chapter news and announcements and news of architects.

Colorado Chapter—*Addenda;* five pp. monthly; offset; no ads. Reports local and regional news.

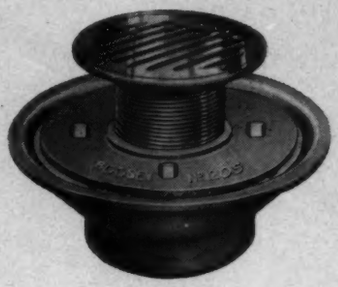
Florida Association of Architects—*The Florida Architect;* about 20–24 pp. monthly; letterpress with halftones; ads. Reports A.I.A. activities in the state, region and nation, and in some other districts, and contains as well information on professional practice and architectural "think pieces."

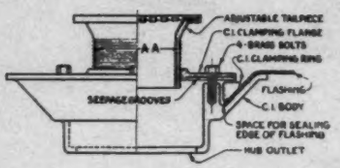
Georgia Chapter—*News of the Georgia Chapter;* around four pp. monthly; mimeograph; no ads. Carries chapter reports and national announcements, as well as legislative information, economic news of the construction industry and activities of other building groups.

Chicago Chapter—*Chicago Chapter Bulletin;* 30–38 pp. monthly; letterpress and halftones;

(Continued on page 348)

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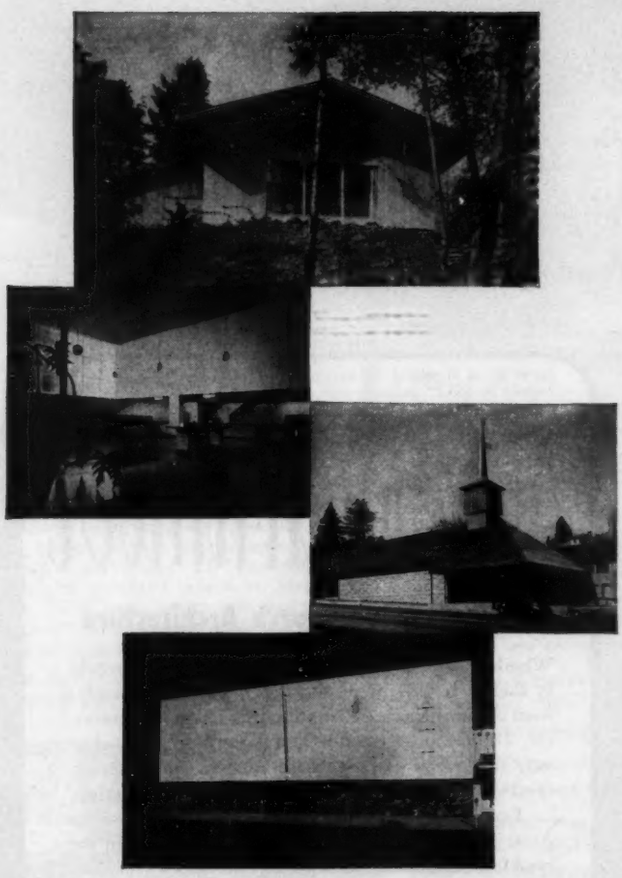
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"A house or a building is modern, not because it has a flat roof or a butterfly roof, continuous vertical spandrels, or horizontal spandrels, lally columns, or plastic bubbles, but rather because it has recognized the meaning of space in relation to its purpose, and to its setting; because, I repeat again, it has solved in a free, and creative way all the many social, economic, regional, emotional and practical limitations peculiar to the problem at hand."

PIETRO BELLUSCHI

Presented here for the first time in book form is a photographic study of the superb work of Pietro Belluschi, one of America's most gifted architects, and a prominent exponent of the bold and virile contemporary design of the Pacific Northwest.

Pictured in these pages is a representative selection of Belluschi-designed houses, churches, and commercial buildings of various kinds, many of which have won world-wide fame. These structures display "Northwest Modern" at its very best—an architectural expression of the rugged terrain, the bracing climate, and the pioneering spirit that characterizes the region and its people. Utterly devoid of sham and mannerism, Mr. Belluschi's buildings possess a simple grace of line and form, a dignity and distinction, that make them works of sheer beauty.

Edited by one of his former pupils, this book quotes at length from Mr. Belluschi's well-articulated philosophy of design, and explains his personal views on the architect's role in mid-century society. Here at last is a book that pays a deserved tribute to one of the truly great architects of our age.

PARTIAL CONTENTS

Part I.
About Belluschi Himself

Part II.
In Belluschi's Words
Architecture & Society
The Role of the Modern Museum in Our New Civilization
Church Architecture
The Responsibility of the Architect in the World of Today
Houses
Our Readiness for Better Architecture

Part III.
From Belluschi's Work
Art Museum, Portland, Oregon
Oregonian Building, Portland, Oregon
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Houses (30 pages)
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St. Thomas More Chapel, Portland, Oregon
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- requires lower initial investment.
- requires less space.
- is standardized to make on-the-job additions or changes easy.
- is designed for greater operating efficiency.
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- in many cases eliminates the need for current-limiting fuses or reactors, thereby reducing equipment investment on many jobs.
- reduces the short-circuit currents to values easily handled by lower-cost conventional equipment.
- serves in dual capacity—acting both as a feeder and a current-limiting protecting device.
- operates on short runs with relatively low voltage drop.

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- **Richkraft is impervious to the effects of Fungi. The Kraft sheets are treated with special fungicide in accordance with Housing Research Series No. 15 H.H.F.A.**
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Richkraft is tough! It is easy to lay. Two men can do all the work needed—Richkraft 65 costs less laid down than two layers of 15 lb. felt mopped or 55 lb. roofing. It is clean—no sticky, tacky surface for the following trades and there is a size for every job—3, 4, 6, 7 and 8 ft. wide.

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ADDRESS_____

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RECENT PERIODICALS

A.I.A. PUBLICATIONS

(*Continued from page 344*)

ads. In addition to reporting chapter news, regularly runs special features; e.g. "Professional Affairs," "Urban Renewal and Land Planning," "Chapter Public Relations."

Iowa Chapter—*Iowa Architect*; eight pp. monthly; letterpress; ads. Covers chapter business, professional practice and public relations; in monthly column "This I Believe" various Iowa architects discuss their profession.

Baltimore Chapter—*Architects' Report*; four pp. monthly; offset; adds. Carries chapter and local announcements, reprinted pieces on architectural philosophy, design and foreign architecture; with 60 per cent of its circulation outside the profession, it gives some little space to architect-builder-client relationships.

Michigan Society of Architects—*Monthly Bulletin*, including *The National Architect* (official publication of the National Council of Architectural Registration Boards); average 56–64 pp. monthly; letterpress with halftones; ads. Besides Michigan and national news, carries reports of new buildings by Michigan architects, news of Michigan architects, notes on practice and on new products.

Western Michigan Chapter—*Architectonics*; one or two pp. monthly; "Ditto"; no ads. Reports chapter and national news and announcements of local exhibits and lectures.

Minnesota Society of Architects—*The Northwest Architect*; average 76 pp. bimonthly; letterpress with halftones; ads. Devotes most of its space to features on new buildings, the allied arts, history or student work; special sections for technical and product news, and for news of the Minnesota Society.

Kansas City Chapter—*Skylines*; average 16 pp. monthly; offset, ads. Gives reports on chapter, regional and national A.I.A. activities, and regularly reprints pieces on architecture by professionals (Pietro Belluschi, Walter Gropius) and non-professionals (Bishop Sheen).

New Hampshire Chapter—*The New Hampshire Architect*; around 20 pp. monthly; offset with halftones; ads. Publishes reports of new buildings (along with the regular feature "Architect of the Month"); covers economic trends in the construction industry.

New York State Association of Architects—*Empire State Architect*; about 34 pp. monthly; letterpress with halftones; ads. Carries association news as well as reports of new buildings, technical information and notes on public relations.

Westchester (N. Y.) Chapter—*The Blueprint*; four pp. monthly from September through June; letterpress; ads. Publishes chapter, state and national news, covers current state and Federal government activities affecting architects, and

(*Continued on page 352*)

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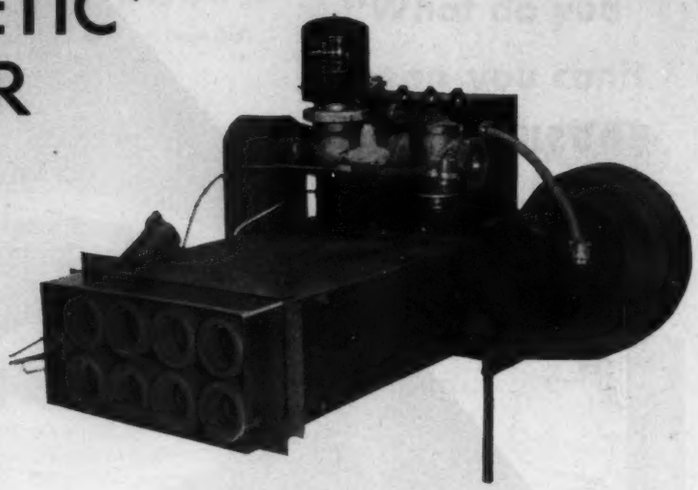
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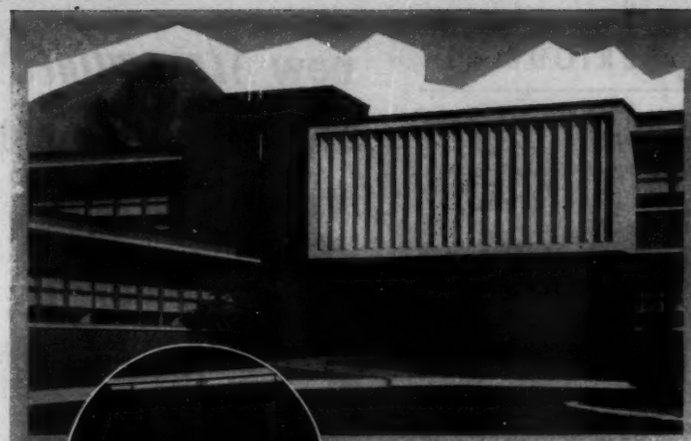
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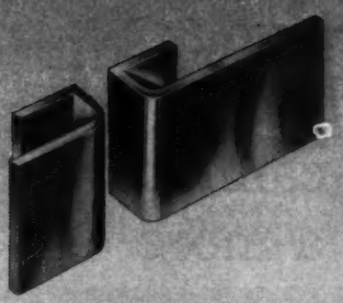
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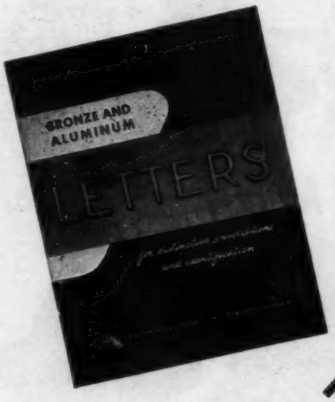
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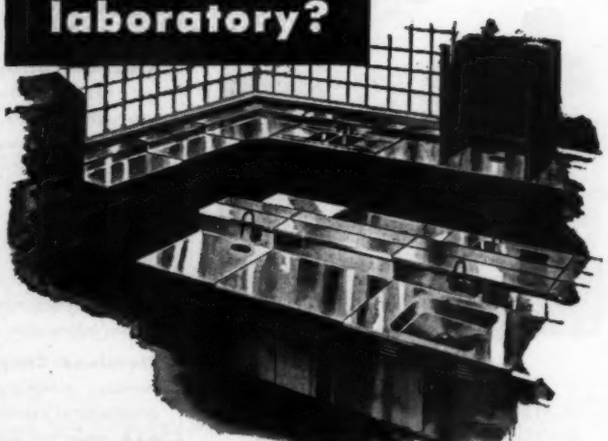
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RECENT PERIODICALS

A.I.A. PUBLICATIONS

(*Continued from page 348*)

frequently excerpts books and periodicals of interest to members.

Bronx Chapter—*The Bulletin;* four pp. monthly; letterpress; ads. Confined to A.I.A. affairs with reports of chapter, state and national activities and occasional news from other chapters.

Brooklyn Chapter—*Bulletin;* eight pp. monthly; mimeograph; no ads. Reports on chapter meetings, legislation and on professional practice; carries features such as the recent one on summer study opportunities abroad.

Buffalo-Western New York Chapter—*Bulletin;* around 10 pp. occasionally; offset; no ads. Most recent issue covered a chapter meeting, the national convention; and carried reports on public relations, modular coordination and concrete shells.

New York City Chapter—*Oculus;* average six pp. monthly; offset; no ads. Reports chapter and national news and current information on professional practice and public relations; also carries book reviews.

Central New York Chapter—*The Straight Edge;* five to nine pp. occasionally; offset; no ads. Carries chapter news and announcements of national and international architectural events.

North Carolina Chapter—*The Southern Architect;* 50 pp. monthly; letterpress with halftones; ads. Reports on practice and professional problems, new buildings and allied arts as well as on chapter affairs.

Architects' Society of Ohio—*The Ohio Architect;* average 30–40 pp. monthly; letterpress with halftones; ads. Feature articles are on Ohio architects and new buildings. Magazine also covers state affairs, local news (through regular correspondents) and technical and new products reports.

Columbus (Ohio) Chapter—*Newsletter;* two pp. occasionally; mimeograph; no ads. Reports local and state news, A.I.A. and otherwise, and carries information on legislative activities.

Cleveland Chapter—*Newsletter;* four pp. monthly; mimeograph; no ads. Reports local architectural events, state, regional and national A.I.A. news (as well as items from neighboring regions); also news of members and of activities Western Reserve University.

Oklahoma Chapter—*A.I.A. Newsletter;* four pp. monthly; offset with halftones; no ads. Reports chapter affairs, and gives attention to public relations and legislation.

Oregon Chapter—*Oregon Architects and Architecture;* four to nine pp. monthly; "Ditto"; no ads. Carries news of local A.I.A. and other cultural events; and of public relations, education and the allied arts; also contains technical reports.

Oregon Chapter—*News Bulletin* (supplemented by minutes of monthly meetings); one or two pp.

(*Continued on page 356*)

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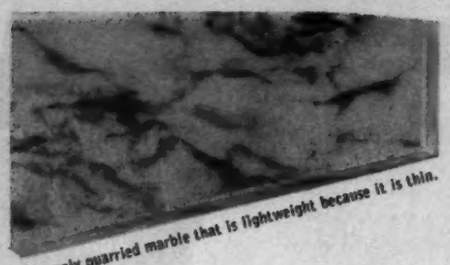
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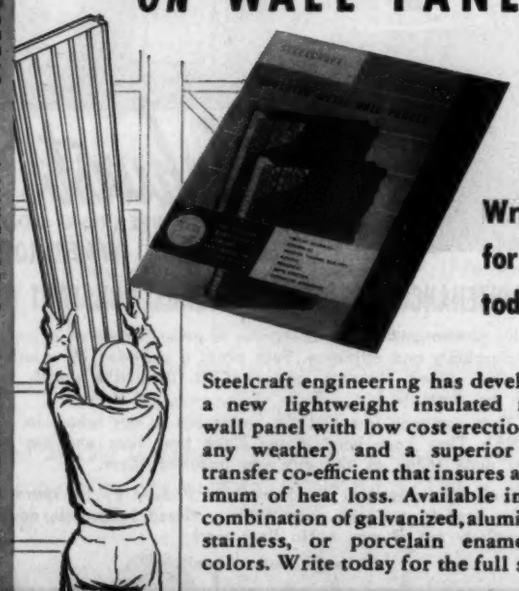
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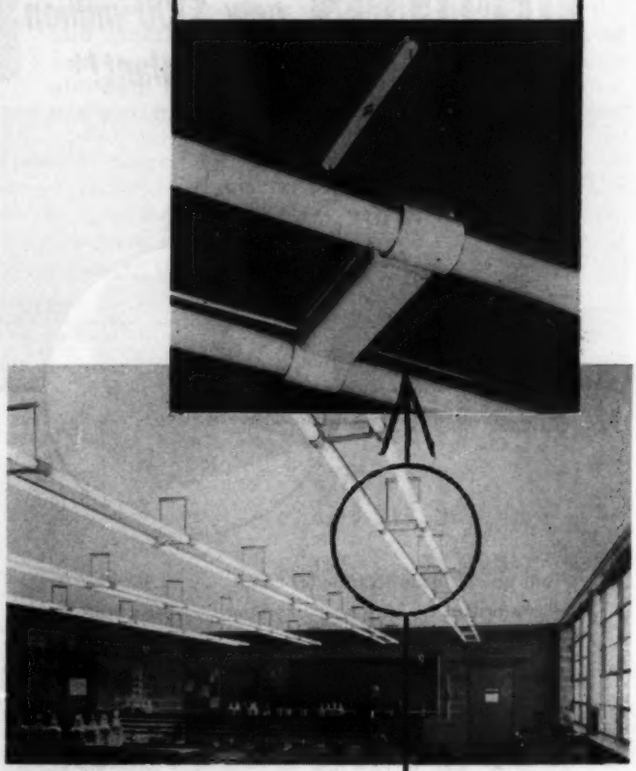
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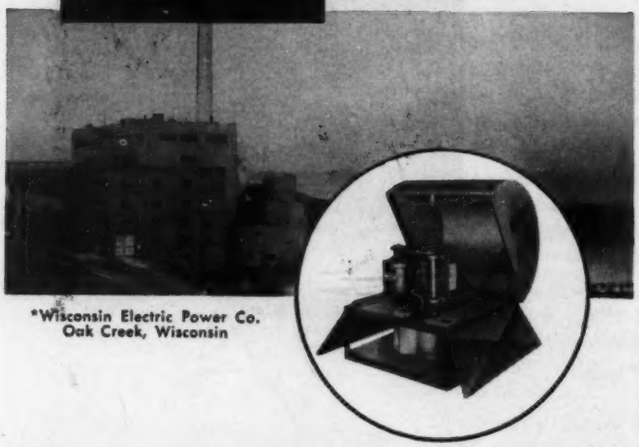
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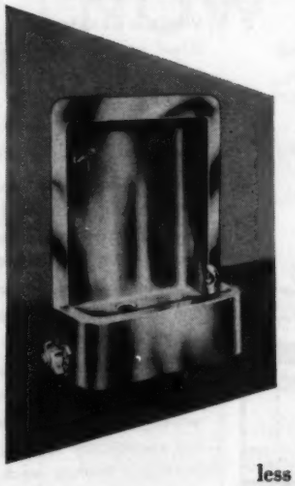
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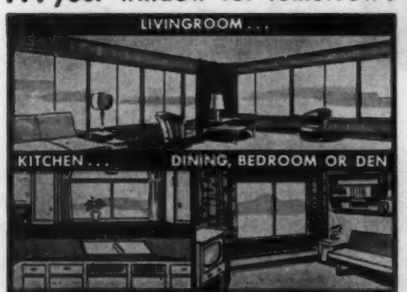


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A.I.A. PUBLICATIONS

(*Continued from page 352*)

monthly; "Ditto"; no ads. Limited entirely to chapter business.

Pennsylvania Society of Architects, Pittsburgh Chapter and Pittsburgh Architectural Club—*The Charette*; about 30 pp. monthly; letterpress with halftones; ads. Carries features on new buildings and redevelopment projects; covers new products and chapter news.

South Carolina Chapter—annual Architectural issue of monthly *South Carolina Magazine*; about 105 pp.; letterpress with halftones; ads. The April 1955 issue carried a report on school expansion in South Carolina, a feature on a project for a cultural center and a photographic review of current architecture.

Texas Society of Architects—*The Texas Architect*; about 12 pp. monthly; letterpress with halftones; ads. Covers news of Texas architects and architecture and of new products; occasionally runs features ("A Texas Architect Visits Japan"; "Thomas Jefferson — Architect of the Union").

Dallas Chapter—no title; two to seven pp. monthly; mimeograph; no ads. Reports on chapter business and activities.

Houston Chapter—*Newsletter*; three pp. monthly; mimeograph; no ads. Covers local chapter and general architectural news as well as state and national news; reprints addresses of speakers at chapter meetings (recently on planning and allied arts).

Virginia Chapter—*The Virginia Architect*, published as a monthly section in *Virginia and The Virginia Record*; 12 pp.; letterpress with halftones; ads. In addition to news of state A.I.A. activities, carries reviews of new buildings and profiles of Virginia architects.

Washington State Chapter—*Monthly Bulletin*; six to eight pp. monthly; mimeograph; no ads. Reports state architectural and construction industry news, and regularly covers student and Alaskan activities; frequently reprints pieces on the philosophy of design, foreign architecture or the allied arts.

Inland Empire Chapter (Spokane, Wash.)—*The Inland Empire Architect*; eight pp. monthly; offset; ads. In addition to A.I.A. news, reports on the construction industry and student activities; carries a feature each month (recent subjects have included architectural reporting, county planning).

West Virginia Chapter—*Chapter Chatter*; 36 pp. monthly; editorial content printed by offset, ads by letterpress. Covers chapter, state and national A.I.A. affairs and construction industry news; reprints articles ranging from technical news to the views of Frank Lloyd Wright.

Wisconsin Architects Society—*The Wisconsin Architect*; nine pp. monthly; letterpress with halftones; ads. Reports A.I.A. and other architectural news, as well as news in fields of construction, engineering and the arts.

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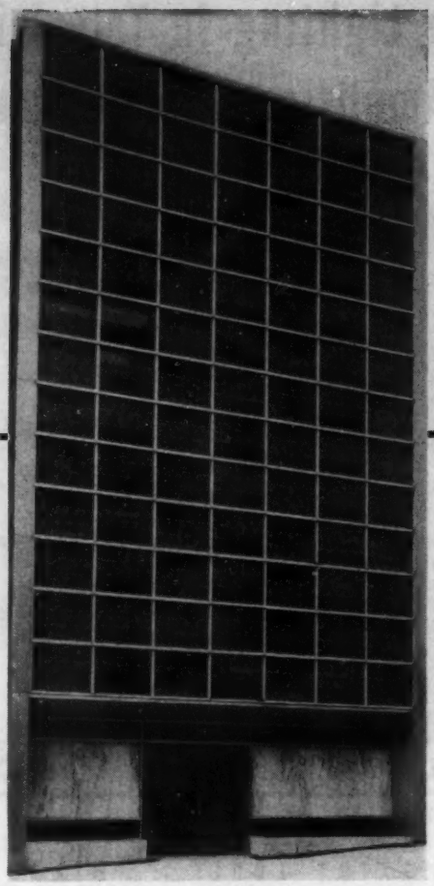
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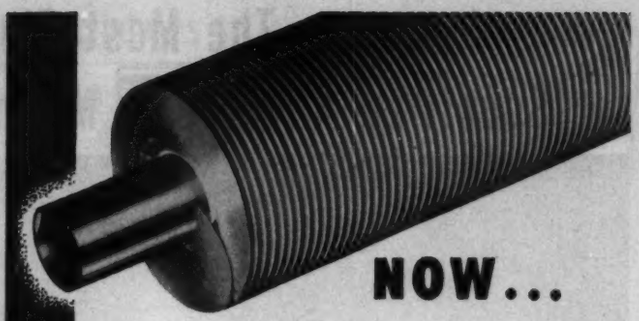
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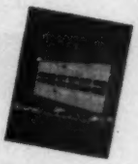
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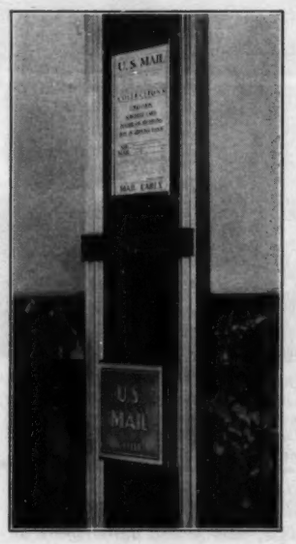


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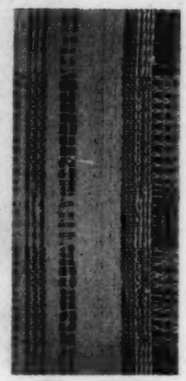
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THE RECORD REPORTS

(*Continued from page 338*)

DECORATORS CITE "BEST" OF FURNISHINGS DESIGN

The American Institute of Decorators has announced the winners in its annual Home Furnishings Design Competition, held to select "outstanding designs made available to the public in 1954." First awards, some of which are shown on this page, went also to Eszter Haraszty in the heavy printed fabrics category and to Karl Laurell for casement fabrics.



1



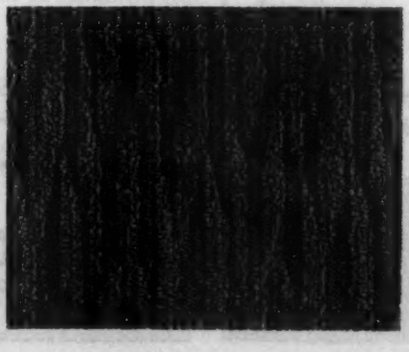
2

First Awards — 1. Heavy Fabrics: a handwoven fabric designed by Jack Lenor Larsen; 2. Sheer Printed Fabrics: Screen print on batiste by Don Wight; 3. Furniture: teak coffee table designed by Florence Knoll; 4. Floor Coverings: multi-colored wool broadloom by Talbot Rantoul

3



4



Specify RIGID-tex for METALS
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Ceiling of above marquee is Stainless RIGID-tex Metal, pattern 2-CB. Clean, neat appearance is permanent. Occasional wiping is all the maintenance required.



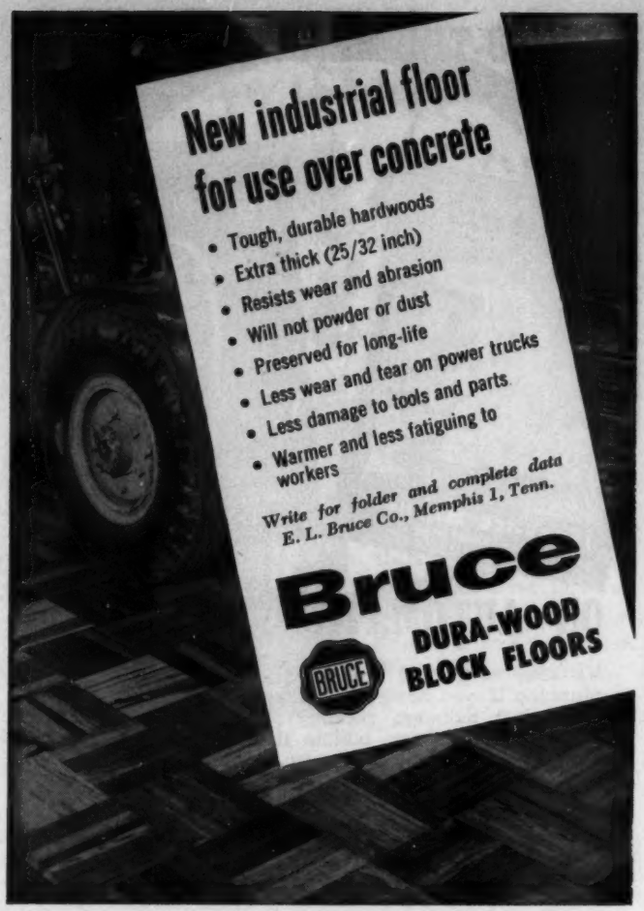


Acoustical fins and lighting shield supports in this library ceiling are RIGID-tex porcelainized carbon steel in pattern 6-WL perforated. Attractive, easily cleaned and sound absorbing.

• RIGID-tex Metal — what it is, why it is better than flat metal, applications, advantages, savings and patterns are all discussed in this informative, "RIGID-tex Metals Architectural Folder." Send for your free copy today and learn more about this design-strengthened metal.



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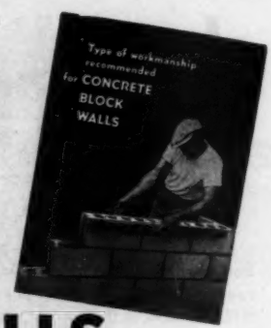


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Despite the fact that more than half of all masonry work is done with concrete blocks, very little information on good *workmanship* has been issued.

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A free copy will gladly be sent you on request. Address Department 3, Louisville Cement Company, Louisville 2, Kentucky.

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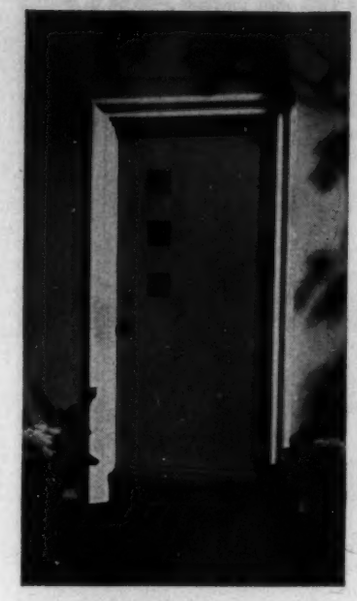
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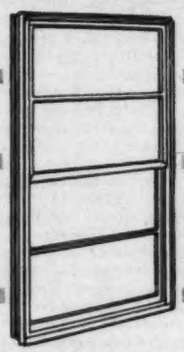
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ALUMINUM WINDOWS



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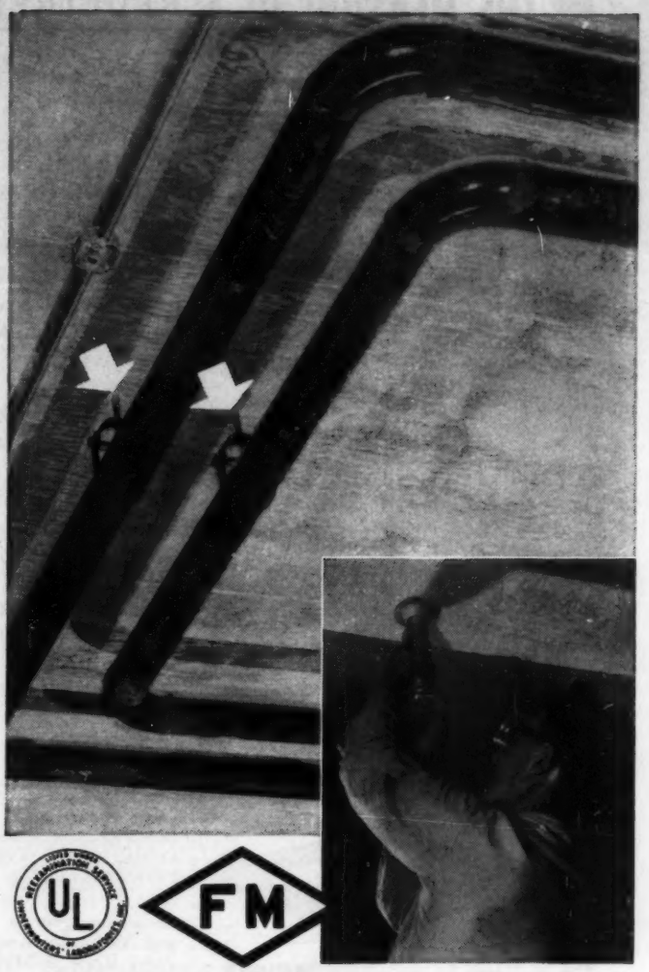
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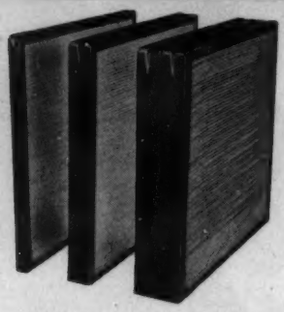
We'll be happy to tell you about these approvals in detail, and show you the many other features of the Velocity Power Driver that help you get more contracts, maintain profit levels, and do the job better, safer. Write for details.



There's no slow-down on those close-to-the-wall jobs. Spall-shield can be retracted, or a portion of the shield can be rotated out of the way. Quadrant marks provide accurate guide for stud installation.

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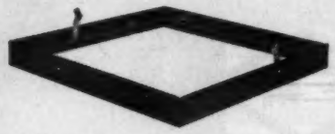
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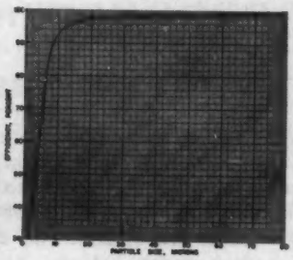
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REQUIRED READING

(Continued from page 48)

nology which offer almost limitless exploration but which might easily strangle inspiration. By combining the advantages of these new tools with an earnest intellectual search and a lively visual imagination these leaders have set a fast pace for the laggards. Although the results are slow to appear in the subways and streets of our country the signs are encouraging.

Graphis Annual and *International Poster Design* are tri-lingual and present work from the U. S. A., Europe (including countries behind the iron curtain), South America and Japan. The work is contemporary and varied in approach.

Penrose Annual is a British work offering general articles (including one on "The Marriage of Content and Form" and a tribute to Werner Bischof) and technical articles. All of this is, of course, profusely and well illustrated.

EXHIBITION DESIGN

New Design in Exhibitions. By Richard P. Lohse, Frederick A. Praeger (New York) 1954. 260 pp, illus. $13.50

Exhibition Stands. By Robert Gutmann and Alexander Koch. Verlagsanstalt Alexander Koch (GMBH Stuttgart) 1954. 248 pp, illus.

Exhibitions are an ideal medium for influencing the public. They cover large portions of man's activity and experience and are, therefore, a measure of the cultural and economic standard of a nation. The basic requirement of an exhibition is that it should offer the spectator knowledge which will increase his receptivity for new ways of life. In preparing an exhibition the selection of exhibitions means evaluation. Evaluation in turn demands a high standard with regard to the exhibits as well as their presentation.

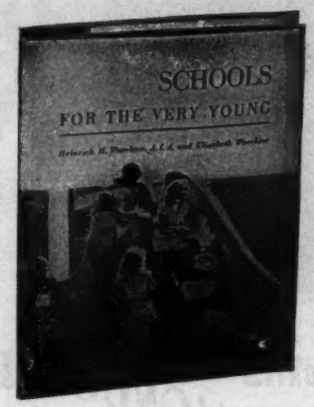
With these thoughts in mind the authors of the two books listed have prepared a pictorial analysis of international exhibition trends. The presentations encompass exhibitions of the past twenty years, covering national, industrial, small manufacturing, scientific, cultural and political exhibitions.

PREFAB HOUSING

Marketing Handbook for the Prefabricated Housing Industry. By Glenn H. Beyer and James W. Partner. Cornell University Housing Research Center (Ithaca, N. Y.) 1955. 64 pp

Schools for the Very Young

by HEINRICH H. WAECHTER, A.I.A.
and ELISABETH WAECHTER



THOUGH many volumes have been written about school design, "Schools for the Very Young" is — so far as we know — the first in which an architect and a child educator have collaborated to provide an up-to-date treatise on the requirements of the particular type of school demanded for the proper training of the very young child.

Beginning with a brief yet adequate historical and philosophical background, in which the development of the theory and practice of child education is discussed, the book goes on to describe the pre-school in action, noting the events of the school day and the corresponding environmental needs of the children and their teachers. Examples of existing pre-schools are presented with critical comment. Detailed information is given concerning the space apportionments and arrangements called for by the activities peculiar to such institutions. Since one of the authors is especially concerned with city planning, the relation of the pre-school to its neighborhood and community is analyzed, and the many different types of pre-schools that have developed to meet special conditions are enumerated and explained.

The outdoor space and its proper equipment are thoroughly covered from the standpoint of a capable architect who has given much thought to the problem. Technological problems of construction, lighting, ventilation, mechanical equipment, etc., are scrutinized in the light of the most recent practice. A wealth of illustrations add both interest and information, and a selective bibliography will aid further study.

208 pages, 7¼ x 10, stiff binding. Price $6.50.

Book Department, F. W. Dodge Corp.
119 West 40th Street, New York 18, N.Y.

Enclosed is $_____ for _____ copy(s) of "Schools for the Very Young" by Heinrich H. and Elisabeth Waechter at $6.50 per copy. (Add 20¢ for N.Y.C. delivery — $6.70.)

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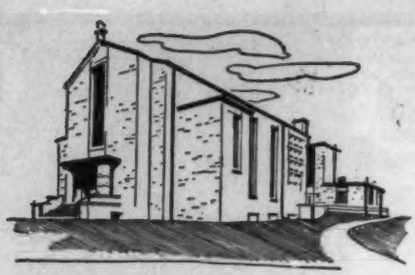
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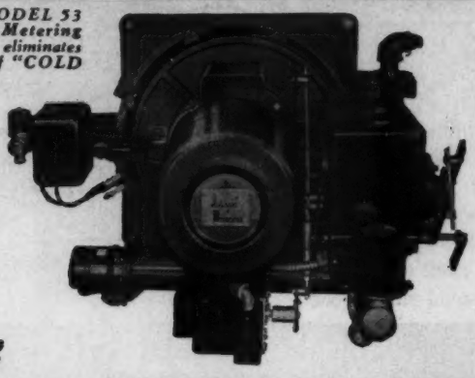
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Johnson Oil Burners

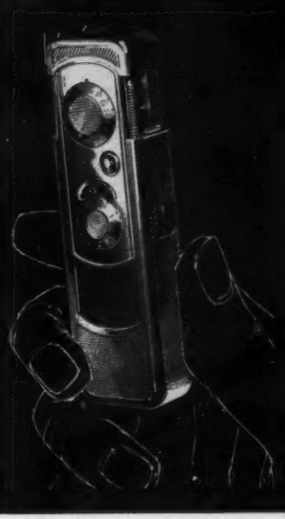
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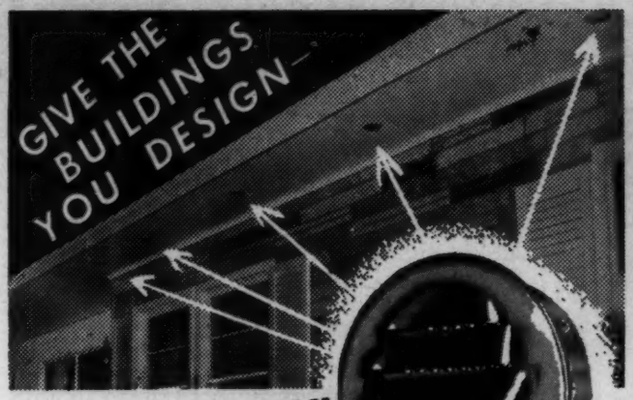
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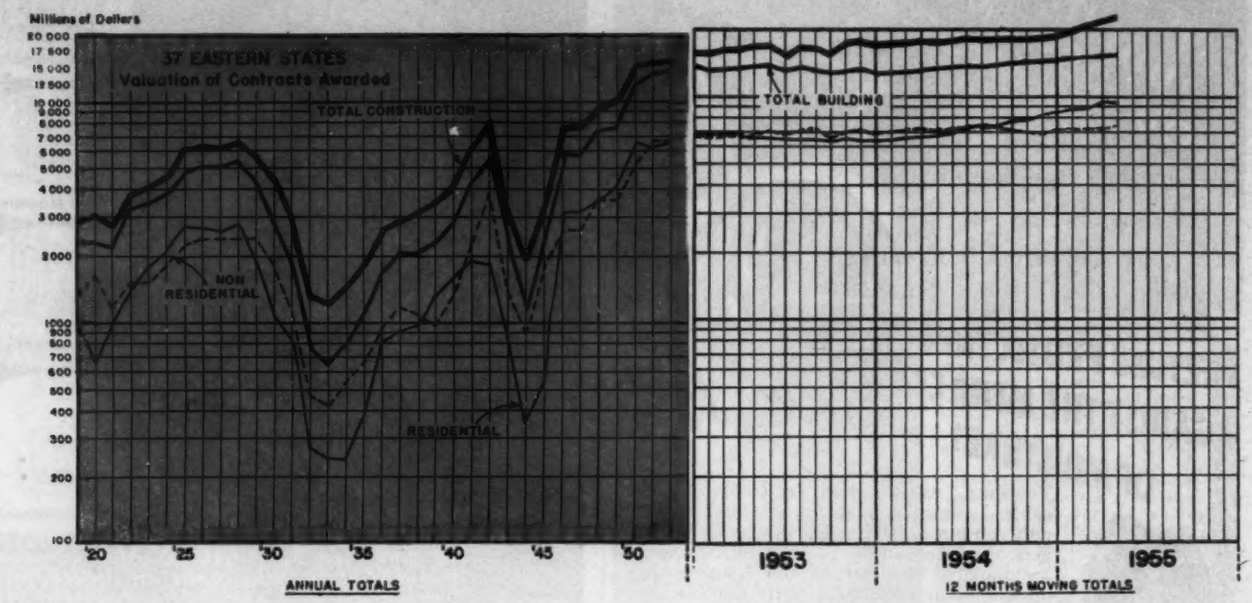
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RISE CONTINUES IN ALL CATEGORIES

THERE WAS NO SIGN OF WEAKNESS in the figures announced last month by F. W. Dodge Corporation in its monthly tally of construction contracts awarded in the 37 states east of the Rockies. The April total of $2,322,085,000, 37 per cent over April 1954, established (1) an all-time record for any April; (2) an all-time record for any single month, except for May 1951, when the total was swelled by nearly $1 billion of atomic energy contracts; (3) an all-time record for the first four months of any year; (4) all-time records for any April and for any first four months in all three major categories—residential, nonresidential and heavy engineering; and (5) an all-time record for residential contract awards. The four-month total, 35 per cent above the like period last year, stood at $7,542,497,000 — $2,564,140,000 in nonresidential awards (up 23 per cent); $3,494,316,000 in residential awards (up 43 per cent); $1,484,041,000 in heavy engineering (up 38 per cent). The continuously rising contract volume seemed "perfectly normal" in the rapidly expanding U. S. economy to Thomas S. Holden, Dodge vice chairman, who saw "no sign that significant surpluses have been produced."

Charts by Dodge Statistical Research Service

Source: F. W. Dodge Corporation

RELIGIOUS BUILDINGS*

Contracts Awarded—Selected Years

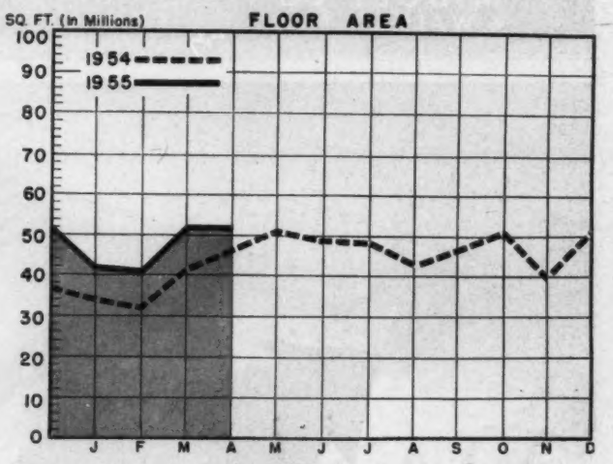
(floor area—in thousands of sq ft)

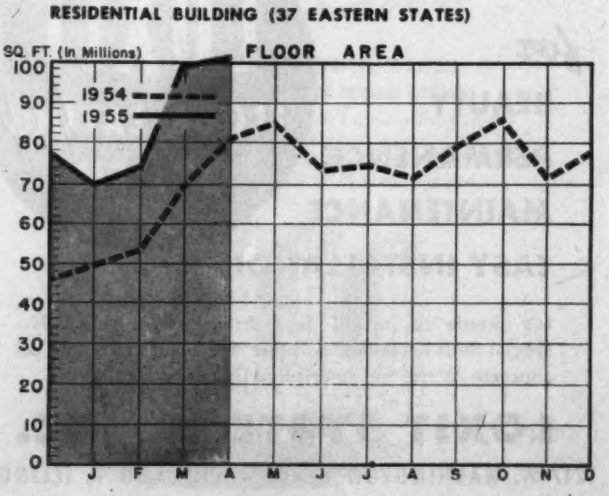
Year	Annual Total	Monthly Average	Year	Annual Total	Monthly Average
1929	12,818	1,068	1950	29,371	2,448
1935	3,534	295	1951	25,133	2,094
1943	1,001	83	1952	22,295	1,858
1947	12,282	1,024	1953	27,714	2,309

Monthly Totals

1954				1955	
Jan.	1,550	July	3,434	Jan.	2,295
Feb.	1,761	Aug.	3,351	Feb.	2,575
Mar.	2,223	Sept.	3,031	Mar.	3,548
Apr.	2,913	Oct.	3,168	Apr.	3,244
May	3,639	Nov.	2,890	4 months—	11,662
June	3,337	Dec.	2,575		
		12 months—	33,872		

*Religious Buildings are the subject of Building Types Study No. 223, pages 177–208.





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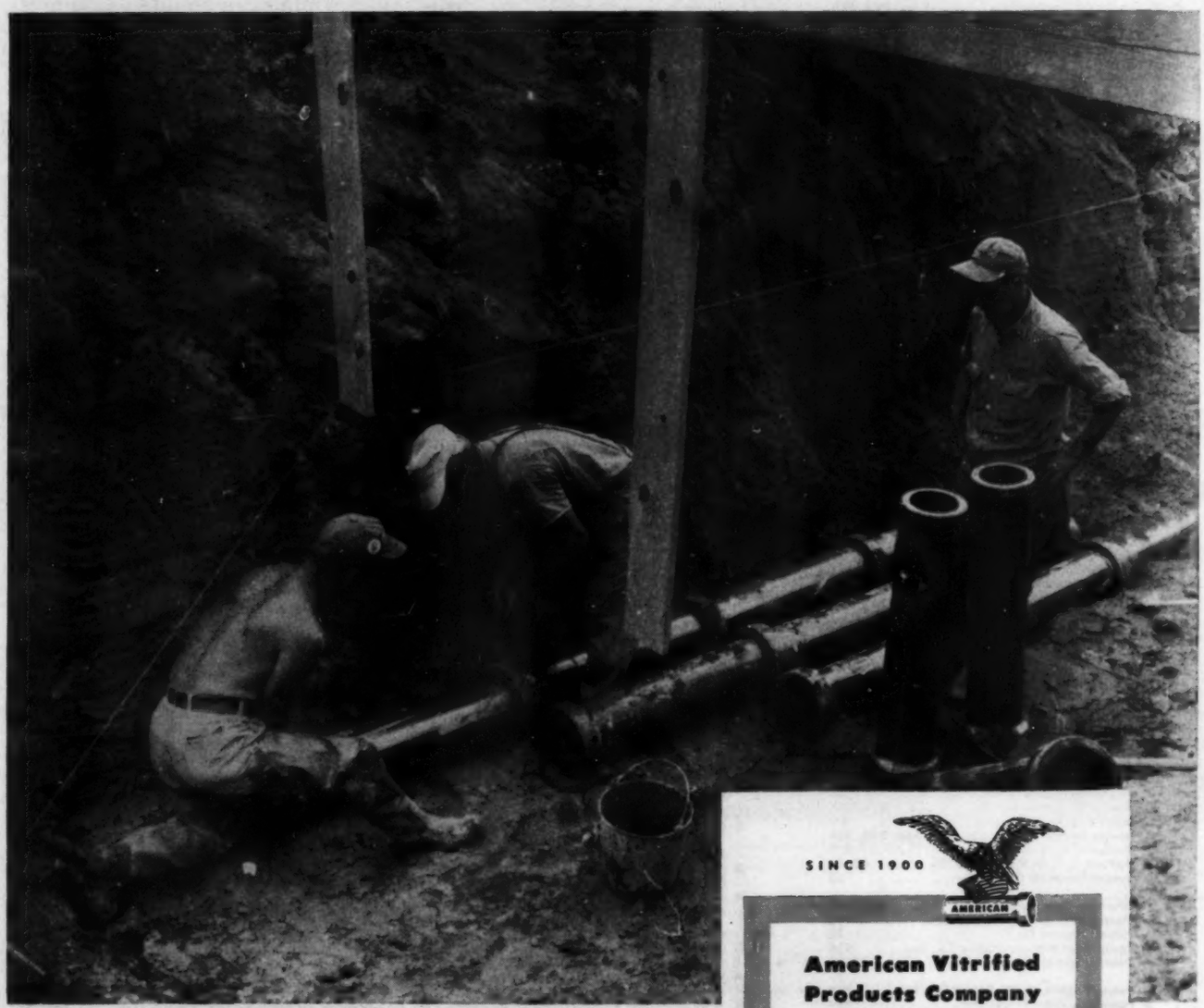
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● In the new Cape Girardeau Central High School, Milcor No. 66 Casing Bead combines with Milcor Smalmesh Metal Lath and Milcor No. 1 Expansion Corner Bead to form light troughs of the clean simplicity typical of today's modern design.



● (Top) Here, plaster will abut a metal air-conditioning grill in a ceiling. Milcor No. 66 Casing Bead is used to provide a sharp, permanent line of separation.

(Bottom) Milcor Casing Bead acts as trim and grounds for plaster around this window — makes possible perfect corners, and a neat joint flush with the plaster.

UNUSUAL APPLICATIONS SUGGEST NEW USES FOR MILCOR CASING BEAD

WHEN you want the beauty and simplicity of flush door and window openings, Milcor Casing Bead is always the perfect answer. That's a basic use, of course. But it's not the only one.

Architects are finding that the versatility of Milcor Casing Bead makes it an ideal material to use wherever you want a neat, strong plaster edge — along the top of a suspended light trough, for instance, or around the opening for an air-conditioning grill. Here it offers the same advantages you find in its basic uses: (1) The permanence of steel. (2) Resistance to fire and impact. (3) Neat mitres and joints that are flush with the plaster surface.

Milcor Casing Bead is available in a variety of styles — in solid and expansion-wing types. See our latest Milcor Catalog No. 202. A copy is available to you upon request.

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